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Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. XLIV., No. 7 NEW YORK, JULY, 1916 Fifteen Cents a Copy One Dollar a Year

CONTENTS

GENERAL SCIENTIFIC.

The Hypothyroidic Eye 207
ARTHUR C. JACOBSON, M. D., Brooklyn, N. Y.

A Prohibition Era—Is It Coming and Should We Welcome It?.....209
OSCAR W. EHRHORN, M.A., LL.B., New York.

Strangulated Hernia. Gangrenous Bowel. Resection 213
J. SHERMAN WIGHT, M.D., Brooklyn, N. Y.

The Pathology of Syphilis (concluded)...214
FAXTON E. GARDNER, M.D., New York.

Osteitis Deformans 216
ROYALE HAMILTON FOWLER, M.D., Brooklyn, N. Y.

A New View of Alcoholic Degeneration..218
T. D. CROTHERS, M.D., Hartford, Conn.

The Present Scope of Medical Jurisprudence 220
THEODORE SUTRO, ESQ., New York.

Hernias of the Urinary Bladder.....221
AIME PAUL HEINECK, M.D., Chicago, Ill.

Intermittent Incontinence of Urine Associated with Uterine Displacements.....223
WILLIAM FRANCIS CAMPBELL, M.D., Brooklyn, N. Y.

Report of a Case of Lepra.....225
EDWARD H. MARSH, M.D., Brooklyn, N.Y.

THE DIAGNOSTIC LABORATORY 225

THE PHYSICIAN'S LIBRARY.229

SOCIETY PROCEEDINGS 230

EDITORIAL.

In Memoriam 231
Exit the Medical Reserve Corps.....231
The Best Basis for Team Work.....231
The President and the Medical Profession.232
Submitted in the Spirit of Holmes and Semmelweiss 232

The Property Fetish and Medicine.....232
Plattsburg and Preparedness.....233
Personal 233

MISCELLANY.

On Artificial Standards.....233
A Prayer for Physicians.....234
The Hospital Question.....234
Hope for Cranks.....234
A Query 234
Definition of the Urethroscope 234

AM. ASSN. CLINICAL RESEARCH

The Diagnosis of Latent Tubercular Infection by Means of the Gamma Ray and Clinical Thermometer 235
SAMUEL ST. JOHN WRIGHT, M.D., Akron, O.

Tuberculosis—A Report of Several Hundred Cases 236
J. D. GIBSON, M.D., Denver, Colo.

CORRESPONDENCE 238

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General Scientific

THE HYPOTHYROIDIC EYE.

With Some Notes on Napoleon's Myxedema.

ARTHUR C. JACOBSON, M. D.

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Brooklyn, N. Y.

The hypothyroidic eye may be best described as featurally antithetic to the exophthalmos picture. The hypothyroidic eye is *dull,* seemingly small, apparently sunken, expressionless, in short, featurally insignificant, according to the degree of glandular deficiency. It is an eye that tends to disappear, so to speak, or at least to become relatively inconspicuous. The phenomenon appears to be more than a mere matter of swollen lids. If our illustrations be studied it will be noted that treatment translates the dim, vague organ into true eyehood, the impression given by the pictures of "before and after" being much like that occasioned by the bringing forward into sharp relief of out-of-focus images. The purpose of the illustrations is solely to bring out this point.

In cretinism the eyes appear small, and, after the myxedema clears up in the third to fourth decade, the eyes are left sunken. Whether this sunken condition is due to the absorption of the orbital infiltration, permitting later recession of the eyeball, or whether in high degrees of hypothyroidism like myxedema and cretinism (athyroidism) there is actual enophthalmos (eisophthalmos), is an open question. It would not seem as if there could be enophthalmos where the orbit shares in the myxedematous infiltration. But however that may be, an impression is given by the hypothyroidic eye which is just the reverse of that made by the typical hyperthyroidic, or exophthalmic organ. The term which we have chosen—hypothyroidic eye—seems better for practical purposes than oligoöphthalmos, for while the latter would connote to some the special featural deficiency that the writer wishes to emphasize, to more it would suggest a diminution in the size of the eye, which is not the fact.

The hypothyroidic eye picture which we are endeavoring to draw has not been specifically discussed in the literature in the light of a complemental and antithetic clinical phenomenon in the thyroidal pathogeny.

Inferentially, we should encounter clinically, in high degrees of hypothyroidism, a kind of inversion of the familiar signs of exophthalmos. It is a fact that ocular signs of such inverse character are present in varying degree. It is possible both to postulate and confirm them. This would seem to sustain the notion of enophthalmos in some cases, despite orbital infiltration. We assume orbital infiltration in early cretinism and severe myxedema, wherein we may be in error; possibly the orbit does not share in the process.

In place of the Graefe sign we find proptosis palpebræ; in place of the Dalrymple sign (usually credited to Stellwag) we find the palpebral fissure narrower than in health, so that instead of the staring eye of Graves' disease we have what we have characterized as featural insignificance, a more or less real recession, the organ tending to disappear instead of to thrust out conspicuously. Further than this the writer has not gone in following out other ocular reversals, and this phase of the subject he leaves with the ophthalmologists. The sign of Gifford is probably reversed, despite palpebral infiltration.

* * *

In the light of our present knowledge of hypothyroidism, the nature of Napoleon's mental and physical peculiarities becomes clear. His short stature, scanty hair, dry and pallid skin, sluggish functions, phlegmatic traits, facial heaviness and "fat" figure were of the myxedematous order. He was obliged to use coffee in excess to keep himself awake, which somnolence gave rise to the *petit mal* legend. He showed the awkwardness of the myxedematous patient, the digestive attacks, the slow pulse (40), the genital atrophy (Henry: autopsy notation) and the lack of body hair. Labedoyere notes his peculiarly firm flesh, total absence of color, and slow speech, and states that his body was far from being a body of iron, as commonly supposed. He slept a great deal (Meneval) and was somnolent at all times (Bourrienne). His head was relatively large. M. de Pontécoulant, who took him into the War Office, describes him as a "young man with a wan and livid complexion, bowed shoulders, and a weak and sickly appearance." Barry O'Meara, the surgeon, notes his thin hair, flat vertex, *dull eyes,* yellow skin in youth and dead-white skin in later life, deranged lymphatic

Fig. 1.—Myxedema before treatment.—Thompson's *Practical Medicine.*

Fig. 2.—The same patient as in Fig. 1, after treatment.—Thompson's *Practical Medicine.*

system, poor circulation, fits of nausea and low stature. An ill-made man, says O'Meara. His stomach troubles long antedated the later ulcer and cancer. George Murray, in his work on myxedema, states that one-quarter of his cases showed abnormal persistence in one line of thought or action, which is decidedly suggestive in relation to Napoleon. Napoleon's well known tendency to skin lesions was in accordance with what we observe in myxedema. In short, Napoleon presented a characteristic instance of what Hertoghe has called myxedema frustrum, mild myxedema, or chronic hypothyroidism.

What do the pictures of Napoleon show with respect to the hypothyroidic eye? Most of them are idealized, not to say apotheosized, and the written descriptions of scared observers of the little Corsican are not any more dependable. In some of the better known pictures in profile the eye is seen to be set deeply, which recession accounts in part for the marked accentuation of the supraorbital and upper nasal prominences. This deep setting is evident in the etching by Ruet, after Messonier's painting, as is also swelling of the eyelids. These representations reveal very clearly a mild general myxedema, and are of the 1814 period. The medallion by Isabey shows the deep setting of the eye strikingly. The hypothyroidic eye is more or less evident in the profile in plaster by d'Angers, in the bust by Boizot, in the engraving by Longhi, and in the picture by Boilly. In the last, pronounced by M. Armand Dayot the truest picture of the First Consul, giving his real aspect with no striving after the ideal, the eyes are seen to be set deeply and far apart, like those of a cretin. The wax cast of Dr. Arnott and the mask of Dr. Antommarchi show the myxedematous fulness of the lower part of the face. In "Napoleon Reading," by Girodet, the upper lids are proptotic, falling much below the usual point in relation to the cornea.

The case of Napoleon has not, of course, the same clinical value with respect to demonstration of the hypothyroidic eye as that of the cases shown in our illustrations, but we have introduced it because of the perennial interest in everything pertaining to him. Apart from the direct subject of our thesis, it is interesting to reflect upon what effect a little thyroid extract might have had upon Napoleon's remaking of the map and institutions of Europe.

The place of this sick man is taken to-day by other makers of war whose mad ambitions and selfish fears are not infrequently related to maladies familiar to the medical profession; some of them are on this side

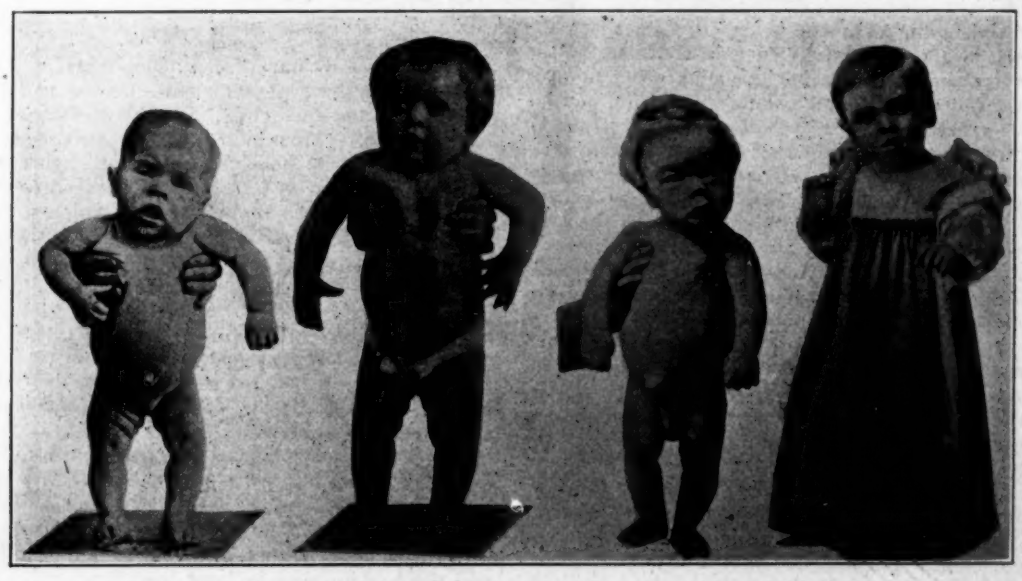

Fig. 3.—Cretinism before and after treatment.—*Holt's Diseases of Infancy and Childhood.*

of the great pond. Dr. Allan McLane Hamilton performed a useful public service a few years ago when he presented the clinical implications in one notable case of political megalomania, nor has Dr. Morton Prince's study of the German Kaiser been forgotten.

115 Johnson Street.

A PROHIBITION ERA—IS IT COMING AND SHOULD WE WELCOME IT?*

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New York.

The evils of inebriety no student of medicine, law or social welfare can or will deny, and because these evils exist there is present with us ever what is popularly known and discussed as the "Liquor Question." Probably no topic has been so much discussed and written about from every conceivable angle by persons of all shades of thought and by many persons with no thought at all worthy of the name. All the various writers upon the subject may in a very large way be divided into two classes, in one of which will fall those extreme partisans who, whether for or against the untrammelled use or abolition of liquor as a beverage, assume an attitude in favor of their particular thesis or program which brooks of no discussion or brushes away argument on the opposing side without investigating the basis for it. In fact, they assume an "ipse dixit" attitude toward the question which renders their statements and arguments of no value in any intelligent discussion.

In the other class are those earnest men and women who, entirely unprejudiced one way or the other, are attempting by a careful and scientific study to come to a just conclusion with regard to this problem.

We may therefore dismiss from our consideration all those who on the one hand contend with vehemence which brooks of no question that liquor under any conditions is a baneful invention of the devil and also those equally discredited upholders of the traffic who maintain that liquor in any quantities and under any conditions should be subject to no restraints.

The purpose of my paper is to consider whether or not the program of the prohibitionists is apparently to become the policy of this country, and if so, whether or not it will, from a legal, medical and social standpoint, accomplish the great good which the advocates of this system contend would ensue.

We must first start with the premises that our government is founded upon the right of personal liberty and that unless the interests of society demand otherwise, the individual may choose for himself how he shall live and even what he shall drink. In a society, however, the individual must subordinate his rights to the general welfare of his fellows in the common interest, and the courts have determined from time to time how far these rights may be limited, and the restrictions with advancing years and a more complex civilization have become greater and greater.

With respect to the regulation of the use of intoxicating liquors as a beverage, the Supreme Court of the United States and the courts of the various States have from an early date recognized that by reason of some of the evils flowing from the indiscriminate use of intoxicating liquors, that the government may not only regulate but also abolish it. This is an elementary proposition now, known to all, and yet the reason for the same should not be lost sight of, for when any program is advocated by educated and reasonable men, it should be based upon reason and where the reason does not in the particular instance exist, the right, though recognized, should not be exercised. Conceding, therefore, the right of the citizenry to enact universal prohibition, the question then presents itself, would the evils which such an era seeks to eliminate be eliminated or would it bring in its train other evils of an equal or greater degree?

This topic is such a large one and permits of discussion in so many phases and departments of human life that it will be necessary for the reader to confine himself to merely a few of the topics which might be considered.

Assuming that we are about to enter upon a prohibition era and assuming that we shall enjoy (?) prohibition widely, generally and strictly enforced, the question will immediately suggest itself in this presence, "What will be the effect on the human organism and how will future generations be able physiologically and otherwise to withstand alcohol?" Will not the immunity to its evil effects in large quantities which we now enjoy and our physical toleration to it be lost to our offspring of the next and succeeding generations?

Most thinkers concede that the average normal man has an innate or instinctive desire for such substances as alcohol, and history teaches us that it has been indulged in by all tribes and nations with but few exceptions, from the earliest of ages. Where it has been apparently abolished among the great nations and tribes of the earth it has been so accomplished through purely mechanical and compulsory devices. It seems fair, therefore, to assume that if through coercive measures the use of alcohol should be inhibited for one or more generations, that in succeeding generations its use would probably again be indulged in, and the human system having lost its resistance and tolerance, there would ensue a far greater destruction than would result if instead of prohibition the same efforts were directed to a rational temperance program.

The next consideration that presents itself is as to whether or not a coercive prohibition would accomplish what its advocates assert. Their purposes are twofold. First, to stop alcoholism as such, and, second, to stop indulgence in alcoholic beverages upon the basis that any indulgence however slight is a poisoning of the human system and should therefore be abolished. They assert that by preventing absolutely indulgence in alcoholic beverages that social, economic and physiological results will ensue so that we shall more nearly approximate the perfect man.

Now, with reference to the first desired result, it is sufficient to say that in those States and communities where legal prohibition has been in effect for a greater or less period of time, it has not been effective to stop alcoholism or even apparently to reduce it, as the figures from official sources will demonstrate.

Official hospital and police figures in all the prohibition States from Maine to Kansas and beyond show conclusively that notwithstanding that those States have had prohibition for many years, yet inebriety, alcoholism and the psychoses resultant in whole or in part from them have not alone not been banished, but in many instances have even been increased.

With regard to the second desired result, the official figures of the government, as well national as State

*Read at the fourth annual meeting of The American Association of Medical Jurisprudence at the New Willard Hotel, Washington, D. C., May 6, 1916.

and local, conclusively show that even where the attempt has been made to prevent indulgence in liquor as a beverage, the individual has never had much difficulty in assuaging his thirst and of obtaining the wherewithal to enjoy that solace which to many it brings.

Where local sales of liquor have been prohibited the consumer has obtained the same through mail-order houses or otherwise. So that, although from time to time so-called prohibition territory has increased, nevertheless the Internal Revenue Department figures show that there has been a continuously increasing amount of liquors manufactured, sold and disposed of not only in gross quantities but also per capita. An apparent exception was the year 1914 to 1915, when there was a decrease, but the figures of the Treasury Department for the nine months ended March 31, 1916, shows an increase tax-paid withdrawal of distilled spirits amounting to 7,658,478 taxable gallons and a decrease in fermented liquors removed from breweries for consumption or sale amounting to 1,537,779 barrels.

This would seem to add point to the contention that if obstacles are thrown into the way of some of the citizens in prohibition territory in obtaining beer and light wines which are of considerable bulk, that they take to more ardent spirits of lesser bulk.

An interesting light is also thrown on this subject by the Interstate Commerce Commission.

Commissioner McChord, in the report of the Interstate Commerce Commission in the matter of the investigation and suspension of advances in rates by express companies for the transportation of liquor (Investigation and Suspension dockets Nos. 25 and 25-A) states as follows:

"The industry directly concerned in this question is that of the mail-order liquor houses. The mail-order business in packages of liquor in this country had its beginning about a quarter of a century ago. At that time it was of small proportions, very few packages being shipped, and those only at short distances. It was the spread of the prohibition movement that gave vitality to this character of traffic in liquor. Local option at first drove the dealers from the localities where they had carried on a retail business to settle on the outskirts of the proscribed territory and ship liquor into it. As the prohibitive area spread, the shippers were driven farther and farther back, but their business became more extended in the territory covered, and larger in the volume of the traffic. With statewide prohibition came the interstate traffic in liquor. The decision of the Supreme Court that this traffic was interstate and therefore superior to interference by the State governments gave the industry a tremendous impetus, and established the express companies as the carriers of practically the whole of this traffic.

The proportions of the business throughout the country at the present time cannot be estimated with any degree of accuracy, but figures presented by the Southern Express Company may be made the basis of a fair approximation. Jacksonville, Fla., probably the largest shipping point for liquor in the South, sends out between three and four thousand packages of one or two gallons daily, or a total of about one and one-half million gallons a year. Chattanooga ships about 786,000 gallons; Richmond, 546,720 gallons; Petersburg, 268,128; Pensacola, 267,760; New Orleans, 255,856; Augusta, 215,150; and Norfolk, Va., Cairo, Ill., Emporia, Va., Louisville, Ky., Portsmouth, Va., Roanoke, Va., and Savannah, Ga., ship more than 100,000 gallons each annually. The total annual movement indicated is 6,085,264 gallons. When it is considered that these shipments are almost entirely from three or four States in the Southern part of the country and that the traffic itself is country-wide, it is not an extreme estimate that the entire volume of this traffic, going entirely to consumers and not to dealers, is in excess of 20,000,000 gallons a year.

These packages are sent express charges paid direct to the consumers on orders in most cases paid for in advance of shipment. The movement is much more active in the South than in other sections of the country, partly because of the extent of the prohibition territory in that section, partly because of the large quantities of very cheap whisky manufactured and shipped there for the consumption of the negro population. While it is not the function of this commission to be influenced in its conclusions by the moral aspect of the question, it is impossible not to recognize in this traffic one of the important factors in the race problem of the South—the evil spirit back of that problem in more ways than one. Generally speaking, the evidence presented at these hearings went to show a distinct cleavage in the industry; in the West a higher grade of liquor was shipped and a better clientele appealed to; in the South both whisky and consumers were on a considerably lower grade.

With the increase in the volume of the business and the greater distances to which it is shipped, there has been a steady improvement in the quality of the packages in which liquor is transported. At first bottles only were used, and these were packed in wooden boxes. Stone jugs, crude in construction, soon made their appearance and became popular as offering a cheaper container and thereby widening the purchasing area. These jugs were shipped without any covering for a time, but by 1887 they were enclosed in a crude wooden crate packed with straw as a protection. This crate later gave place to wooden boxes which concealed the character of the contents to a certain extent, and so tended to lull the spirit of resentment in prohibition communities, and inspire a quiescent, if not acquiescent, attitude. In 1904 the wooden box began to be superseded by the corrugated paper box, which was found to be equally safe when properly constructed, and considerably cheaper to the shipper. Within the last two or three years glass containers holding 1 or 2 gallons have been displacing the stone jugs. This latter movement has been more active in the West, the jug being still the favorite package in the South."

It will therefore be seen from this impartial governmental investigation and report that though the South may be heralded far and wide by the total abstinence propagandists as prohibition territory, yet the name "prohibition" in this connection spells a widespread and increasingly extensive indulgence in alcoholic beverages.

While this report was rendered in 1911, the government officials bear witness to the fact that the same conditions have continued.

That prohibitory laws do not prevent indulgence in intoxicating beverages is also borne out by personal investigations and experience. While in conversation with the Archdeacon of Tennessee in February last, he alluded to certain illicit stills and I remarked, "But Tennessee has State-wide prohibition." "Yes," said he, with a laugh, "and everybody in the State carries a grip."

Archdeacon Claiborne in his recently published pamphlet, "A Story of Mountain Life in East Tennessee," also says:

"The family feuds, the illicit distilleries are still there and the people of the mountains feel they have a right, as they argue the property is theirs and also the labor that makes the whiskey. They cannot see why the government puts a tax on whiskey when it does not tax the meal made on the same land by the same labor, consequently the mountaineer thinks that the government is interfering with his rights. State rights extend in his theory even to the individual. The mountaineers' idea of loyalty is rigid and they would not hesitate to lose their life for their friend or family,—not a healthy condition of things for the revenue officer whom they feel is an enemy of the community, and as they have put one class of enemy—whether a rattlesnake or a man—they treat them all alike and they are economical with their bullets. This state of lawlessness cannot be changed by legislation. * * *"

While prohibitory laws may limit the indulgence of some in alcoholic beverages principally of large bulk, they almost always result in increased indulgence in those communities in cocaine and morphine and other narcotic drugs. The Commissioner of Internal Revenue in his last report estimates that there are in the United States probably several hundreds of thousands of drug addicts, and government figures show that while the importation of opium from the decade from 1860 to 1869 was 1,425,196 pounds, in the decade from 1900 to 1909 it had increased 351 per cent., or to the amount of 6,435,623 pounds; yet this does not take into consideration the amount smuggled during the period. A wide canvass made by the government among the medical profession shows that between fifty and seventy-five thou-

sand pounds of opium are sufficient to satisfy the medicinal needs of the American people, and that 15,000 ounces of cocain are only necessary, yet this country imports, manufactures and consumes over ten times that amount of cocain.

A reference to the State Hospital and other official reports will show that with the spread and enforcement of prohibition laws there has been an increased indulgence in narcotic drugs.

The Commissioner of Internal Revenue in a recent letter to me called my attention to an article appearing in the Public Health Reports of the United States Public Health Service on March 10, 1916, regarding the sale and use of cocain and narcotics and from that article and the papers it appears that for the years subsequent to 1910 there has been a distinct increase in the use of these drugs, and the estimate of the approximate number of average doses of habit-forming drugs imported into the United States during the fiscal years 1912 to 1915, inclusive, amount to a total each year of from 1,986,960,300 to 2,518,800,000 of opium, morphin and its other alkaloids, as well as from 194,900,000 to 324,000,000 doses from coca leaves and cocain. Should we not therefore pause before attempting to inaugurate an era which, while supposed to lessen one evil, seems to add impetus to or creates a new or far greater evil.

Rear Admiral Bradley A. Fiske in his letter to the Secretary of the Navy, made public April 16, 1916, protesting against the prohibition of wine and beer on ships and at naval stations, said:

> Another effect would be the increased temptation to officers to secrete whiskey in their rooms and to drink whiskey (a most dangerous thing) instead of wine or beer. Another effect would be an increased temptation to use cocain and other drugs. This danger is real—not imaginary. Many people crave stimulants of some sort, and if they cannot get what they prefer will take anything they can get. Cocain takes up little space and is very convenient. Its use among enlisted men has increased since they were prohibited the daily bottle of beer.

One of the other results which it is said will be obtained if prohibition becomes general is that it will cut off the taste for liquor from the growing generation, thus preventing overindulgence. The police data from the State of Maine shows that, notwithstanding the long reign of prohibition in that State, the young offenders arrested for intoxication have not decreased, but rather increased, both absolutely and relatively. It would therefore seem that the duty of our professions should be to preach and if possible obtain an era of true temperance which would mean regulation, so that there should be had or at least permitted, moderate indulgence, unless it should be shown conclusively by careful observation and tests that moderate indulgence in liquor is a bane.

In this city there recently gathered an association of medical and other men, banded together for the purpose of apparently obtaining the absolute abolition of drinking alcoholic beverages, who read certain papers which were published, in which most rash statements were made based upon no satisfactory scientific data. It must be conceded that to scientifically determine the effect of moderate indulgence in alcohol on the human system the tests which apply to the lower order of animals cannot suffice, for the human organism is a highly sensitive one and is subject to various influences which do not play the same part with regard to the lower animals.

Last year the Nutrition Laboratory conducted an experimental investigation of the effects of moderate doses of ethyl alcohol in man, and the results of the investigation and experiments, together with abstracts from various sources, were published in a report by Raymond Dodge and F. G. Benedict of the Carnegie Foundation, published in 1915. Various experiments were made with reference to its effects on neuro-muscular tissues with especial reference to its effects on mental processes. That the results were entirely inconclusive to warrant passing any radical measures with reference to alcohol as a beverage will appear from a careful examination of that report, from which the following extracts, though taken at random from various parts of the report, will be sufficient, however, to make the point. Thus there appear the following statements among others to which I direct your attention:

> "Probably no subject in physiological chemistry has received so much desultory experimental attention as has that of the effect of ethyl alcohol on organic processes. We have numerous systematic and exhaustive contributory studies on the physiology of the proteins, of the carbohydrates, and of the fats; but in spite of the fact that several million people regularly obtain a somewhat larger proportion of their total energy requirement from alcohol than they do from protein, there has been no adequate, systematic investigation of the metabolism of alcohol and its physiological action. This is a misfortune to science. On these grounds the Nutrition Laboratory believed it important to classify the lines of research, and to prepare a tentative plan for an extended systematic investigation into the physiological action of ethyl alcohol in man. (Page 9.)
>
> While the Nutrition Laboratory is committed to a continuation of the investigation, and while definite arrangements have been formulated to make the alcohol investigation, either on the physiological side or on the psychological side, a substantial part of each year's work, it is inconceivable that any one or a dozen laboratories can adequately complete this program in a decade. (Page 10.)
>
> Neither the technical nor the practical difficulties of this phase of the problem were underestimated. As we pointed out in the psychological program, unfortunately only the simpler and more elementary neuro-muscular processes can be studied directly by present laboratory techniques. Of the important higher mental and moral processes there is at present scant probability for securing experimental data of scientific reliability, owing to the difficulty of measuring them experimentally in any direct way. (Page 11.)
>
> It is a well-established fact that ethyl alcohol, when taken in small doses, the total amount per day not exceeding 75 grams, is completely oxidized in the body and thereby replaces nutrients as a source of energy. This fact suggests a large number of experimental problems in the domains of physiology and physiological chemistry which, when studied by the newer methods, should give results of fundamental importance. (Page 266.)
>
> Unfortunately, only the simpler and the more elementary neuro-muscular processes can be studied directly by present laboratory technique. Of the important higher mental and moral processes there is at present scant probability for securing experimental data of scientific reliability. Modifications of the moral controls of business judgment, tact and reliability, of mental stability and balance, are not experimentally measurable in any direct way. They must be studied, if at all, by some indirect method. This technical defect is a serious limitation to all experimental investigations of the psychological effects of the ingestion of alcohol. (Page 272.)
>
> It may not be amiss to emphasize at the beginning that the basis experimental method of difference in its true form is inapplicable in such experiments as these. It is obviously impossible to isolate a single experimental circumstance in man. The living human organism includes too many complex variables. It is subject to too many rhythmic and arrhythmic changes, which make it, at any moment of time, different from what it has ever been before. After the introduction of our experimental circumstance into this complex of ever-changing conditions, we could not be sure that even notable variations in the measurements of selected processes were not conditioned in whole or in part by organic changes which were quite unrelated to our experiment. (Page 18.)
>
> But, in man at least, it is never a satisfactory procedure to regard succeeding changes in a measured phenomenon as the effect of an experimental change, merely because one is consequent to the other.
>
> If all the organic rhythms and accidental change were adequately known we might arrive at the quantitative results of our experiment by a process of subduction. Unfortunately, with our present knowledge this can not be done directly. With a few notable exceptions, such as the work of Lombard,

and of Grabfield and Martin, we know altogether too little about the daily rhythms of even the simplest neuro-muscular processes. We have still scantier quantitative data of the accidental environmental effects, such as those produced by changes of temperature, light, humidity, etc. Except in a few isolated cases we have no knowledge at all of the mental consequences of such complex vital processes as are involved in the secretions of the various ductless glands, changes in blood-pressure and pulse-rate, the ingestion of different foods, and various kinds of muscular activity. (Pages 18-19.)

While we must carefully protect the experiments from every known bias, we must realize the possibility that in any given instance the real effects of alcohol may be completely masked by the accidental variables, and on the other hand, that on occasion the real effects may be more or less grossly exaggerated. (Page 19.)

Neither in the experimental literature nor in the theoretical discussions is there any uniform standard of alcohol dosage. Probably the most satisfactory arrangement of the dosage, in man as in animals, would be according to some definite percentage of the mass of the blood. This would appear to be necessary in all attempts to measure individual differences. (Page 29.)

The results of our experiments on the effect of alcohol on memory are summarized in table 20. While different subjects vary widely in the effect of alcohol on the memory process as measured by our technique, the total results show no predominant tendency of alcohol on the main group of subjects. As far as our measurements go, rotememory (primary retention) is neither better nor worse after small doses of alcohol. (Page 133.)

The data at hand show no clear tendency of muscle threshold after alcohol, but, as we have indicated, they are too unreliable to be of any real significance. (Page 147.)

On the problem of muscle fatigue and recuperation we have no direct data. Prolonged free oscillation of the finger, which we proposed in the program to study in this connection, proved to be complicated by too many capricious factors to be usable. (Page 147.)

Reports of the effects of alcohol on the circulation are among the earliest and most common data on the physiology and pharmacology of alcohol. But, notwithstanding an enormous amount of experimental material, there is no commonly accepted generalization. The discrepancies and contradictions of the earlier investigations appear in the more recent. Alcohol has been found (1) to increase the pulse-rate, (2) to decrease it, (3) to do neither, and (4) to do both. Some illustrative observations are given on page 187. (Page 186.)

Summaries which attempt to generalize at all concerning the effect of alcohol on pulse naturally reflect the experimental discrepancies. Thus Lauder Brunton states that alcohol in moderate doses increases the pulse-rate. Horseley and Sturge hold that alcohol decreased the pulse-rate. Notnagel and Rosebach, and Rosenfeld state that it has no significant effect, while Cushny accepts the view that it both increased and decreased the pulse, according to circumstances, but has no effect on normal quiet subjects. Meyer and Gottlieb, while classifying alcohol among the heart-accelerating medicaments, appear to hold that its action has not been proved for normal human subjects. Indeed, the more recent general summaries show a conspicuous tendency to regard the effect of moderate doses of alcohol on the human pulse as more or less problematic. This uncertainty seems to be widely reflected in medical practice. (Page 186.)

The unanalyzed question whether alcohol effects a positive or negative increment in the capacity of the subject for any specific mental performance or group of performances is scientifically crude. We would not appear to deny the practical importance of such a question. Both morally and economically it may be useful to know whether an individual can do more or harder work after taking alcohol as a part of his food or as a condiment. But the practical capacity for effective work of any definite sort is scientifically the product of an indefinite number of interacting neural facilitations and inhibitions. In this complex and relatively unexplored interplay of psycho-physiological processes, the balance in any direction can rarely be predicted with scientific accuracy. In no single case do we know accurately either the number or the relative force of the various factors. Conversely, any specific outcome may be the resultant of any definite number of various configurations of the polygon of forces which may be in operation. In ergographic accomplishment, for example, a specific increase in the work done may be due to an actual increase of the available muscular energy, to a spurt, to increased interest and determination; or it may be due to decreased susceptibility to the normal inhibiting influence of muscular discomfort or pain. Similarly, a decreased reaction time may be due to increased attention, to real facilitation of the motor discharge; or it may be due to careless reaction to some accidental pre-stimulation cue that the true stimulus is about to come, or even to some arbitary simplification of the reaction modes, such as the change from a sensory to a motor type. Only correlated data can determine which of the interacting tendencies is actually responsible for the increased output. The naive assumption that increased physiological action is always organically beneficent, as well as that depression of physiological action is always organically disadvantageous, are merely popular prejudices. (Page 247.)

These excerpts, taken from this intensive and interesting report of which there are many of similar tenor contained therein, are sufficient to uphold the position of reasonable men that we are not justified in adopting a radical procedure with reference to alcoholic beverages in moderate quantities upon the basis of its effect on the community, for it is a complete non sequitur that such indulgence results in such a detriment to the individual, and the individual therefore such a serious menace to society in general that the personal liberty and right of choice of all individuals should be curtailed. However, we need not be discouraged. Notwithstanding the increase in prohibition territory, prohibition viewed from the standpoint of the moderate consumer has not increased. An examination of the prohibition laws of the different States will show that territory listed as prohibition does not restrict the consumer save in the quantities that he may consume and in the ability to easily purchase and obtain the same. Thus Alabama prohibits an individual receiving or possessing at one time or within any period of 15 consecutive days more than 2 gallons vinous, 5 gallons (40 pints) malted, or 2 quarts spirituous or other prohibited liquors, or more than one kind of these kinds named.

Arkansas permits any quantity for personal use.

Georgia allows a person to receive and have in possession at one time or within any period of 30 consecutive days not more than one gallon of vinous liquor or 6 gallons (48 pints) of malted liquors or more than 2 quarts of spirituous liquors. At the time of writing (April, 1916) near-beers are allowed to be sold under regulations, and those of us who have sampled the near-beers of the South in the many States know what this permission means.

Idaho permits an individual to have in his possession for private use one gallon of intoxicating liquors or one case of beer (24 quart bottles).

Kansas has no restrictions on the quantity that may be shipped. So, too, is the law of Maine.

Mississippi permits shipments of one gallon a month for personal use only.

North Carolina permits one quart of spirituous or vinous liquors or intoxicating bitters, or five gallons of malt liquors every fifteen days.

North Dakota permits any quantity, provided the same is for personal use.

Oklahoma permits one gallon of spirituous or vinous liquors or one cask of malt liquor at one time.

Oregon permits two quarts of vinous or spirituous liquors or 24 quarts of malt liquors within a period of four successive weeks.

South Carolina permits a person to order and receive one gallon of liquor or beverages for his or her own personal use every calendar month.

Tennessee passed a law in 1913 limiting shipments to an individual for personal use to one gallon, but the Supreme Court ruled in the case of Bird v. State, 175 S. W. 554, April, 1915, that this law does not prohibit the personal transportation of quantities greater than one gallon.

Virginia has no restrictions as to quantities as yet.

The manufacture of wines and malt liquors (containing not more than 3½ per cent. of alcohol) by companies now engaged in their manufacture, is permitted for sale outside the State, where the same may be sold legally.

Washington permits receiving within the State by an individual one-half gallon of liquor or 24 pints of beer within any twenty-day period.

West Virginia restricts shipments of liquor to an individual to one-half gallon every month.

Further interesting data might be given on this subject, but these statements would seem to show that sentiment in favor of total abstinence has not as yet reached any such proportion as would indicate that a prohibition era is at hand.

An interesting illustration of this is found in the results of a vote taken early in 1916 by the Church Temperance Society, which is the recognized temperance society of the Protestant Episcopal Church. This vote was taken upon the question of so amending the constitution of the society as to pracically make it a total abstinence as distinguished from a temperance society, which it has been for many years. One thousand voting papers were sent out to the Bishops of the Episcopal Church and to the members of the society, who are scattered throughout the country. An analysis of the vote made by the secretary at my special request showed that only 510 were sufficiently interested to take part in the vote, as that was the total number of ballos cast. Of this the number in favor of the amendment was 252, the number against the amendment 258. Of the clergy who voted in favor of the amendment there were 191 in favor and 151 against the amendment. Of the laity 61 were in favor and 107 against. There were 43 bishops who voted, of whom 26 were in favor and 17 against it. I also requested information as to how many of the laity who voted for and against were physicians and also how the vote was distributed with reference to States and to urban and rural communities; this information, however, could not be afforded me.

But the data of this vote, taken among persons who were already enlisted in an active campaign against intemperance and who are among those most interested in obtaining the reign of total abstinence, is of great significance insomuch as a majority of those voting were apparently not convinced of the urgency or desirability of trying to make others abstainers; in addition to this, it must be remembered that there were some 490 who were sufficiently indifferent as not to vote upon the problem, although it is generally recognized that those not voting are satisfied with conditions as they are and would show a very small part actually in favor of the proposition. If this be so in such a voting constituency, it is safe to assume that among the citizens at large there is no general sentiment in favor of compulsory total abstinence such as would warrant us in assuming that such an era is at hand.

I note by our program that this afternoon we are to inspect the Government Hospital for the Insane and then are to be favored with a symposium by members of the resident staff of the hospital on the subject of the criminal insane. It is certain that the rational treatment of the inmates there by Dr. White and his associates renders St. Elizabeth's Hospital the very opposite of that Bedlam which the early English and European insane asylums all were (for we must remember that the word "Bedlam" is a corruption of Bethlem, the first English insane asylum in London). May we not hope that our members and those of the local Society of Medical Jurisprudence of Washington (representatives of which are meeting with us) and the learned professional men generally will bend their efforts to enlighten public opinion on the subject of alcohol as it has been enlightened on psychoses with its resultant benefits to all. Then will the public recognize alcoholism and dipsomania as diseases to be treated and entirely distinct from the moderate and normal use of alcoholic beverages which should be subject only to control and curtailment when the interests of society are demonstrated conclusively and incontestably to require it.

15 William Street, New York City.

STRANGULATED HERNIA GANGRENOUS BOWEL. RESECTION.

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J. H., age 30, captain of a lighter, born in Ireland. Family history negative. Has had right inguinal hernia supported by a truss for 15 years. He was brought to the Long Island College Hospital in the ambulance, ccomplaining of a large swelling appearing suddenly in the right groin. He had been drinking and had left off the truss that morning. He had been vomiting all day.

Physical examination showed a large right inguinal hernia; only mild taxis was used to attempt reduction. Vomiting was faecal.

Diagnosis—Strangulated heria.

Operation—The sac was incised and contained gangrenous ileum and caecum; 25 inches of cold, dark, lusterless bowel was resected, leaving a 3-inch margin of safety. The intestine was united end to end and the wound closed.

He was given no food for six days and made an uninterrupted recovery. He was given a bismuth meal before he left the hospital and the patient's bowel is shown in the accompanying plate. His pulse ran very high for several days and he showed marked acidosis. The acidosis was controlled by large quantities of water and intravenous injections of sodium hydroxid before and after anaesthesia, to which I attribute his recovery.

That shock is in any way cardiac, or due to cardiac failure, does not seem reasonable. In advanced shock the heart is still capable of pumping against an enormous resistance, as can be demonstrated by the injection of epinephrin.

THE PATHOLOGY OF SYPHILIS.

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New York.

(*Concluded from page* 192.)

It is but natural that the organs of *elimination* should be involved in syphilis. The *kidney* is often affected, in late as well as in early stages. Albuminuria, without any subjective or objective symptoms, is common during the secondary outbreak; as it disappears spontaneously in three weeks, is less if antiluetic treatment be given, it does not seem to be linked with any actual nephritis, but is probably due to the irritation of the renal epithelium by the spirochetes or the toxins that pass through it.

During the secondary period diffuse acute or subacute nephritis is not infrequently met with; it may assume all known clinical and pathological forms, parenchymatous or interstitial, enlarged or contracted kidney, dropsical or dry uremic type. It may end in recovery, or be followed by a chronic tubular nephritis.

In the later periods of the disease we more often see a chronic type of nephritis, chiefly interstitial or amyloid; more rarely gummata, usually associated with diffuse sclerosis, are observed.

How much of the renal lesions seen in syphilitics is due to the spirochete itself, and how much to other etiological factors, is not easy to say with certainty. Rayer and Virchow blamed mercurial treatment for the nephritis of syphilis, and Schamberg has shown by experimental work that mercury is decidedly renotropic and may cause much damage in the kidney.

But the diffuse nephritis of the secondary period improves under salvarsan or mercury treatment, even if under such circumstances, the utmost caution is needed in the administration of these two remedies. So it does seem that Rayer's theory is not very acceptable for this type. For the later, chronic type, however, the influence of mercury is not to be thought of as lightly, and it is likely that syphilitic sclerosis of the renal blood vessels also plays a great part. This type does not improve under specific therapy, and is even one of the most serious obstacles to the intensive administration of the latter. It goes without saying that gummata are distinctly spirochetal in nature. Syphilis is now recognized as the sole cause of *paroxyotic hemoglobinuria.*

Lesions of the remainder of the urinary tract are comparatively unimportant. In the bladder the cystoscope shows during the secondary period a transitory exanthem similar to those observed on the skin. Later gummata and ulcers have been reported. We do not include in vesical syphilis the very frequent and characteristic lesions seen in that viscus in tabes, because those are not directly luetic.

Among the *male genital organs* the *testicle* deserves special attention. It is the seat of very interesting lesions in experimental syphilis, and the spirochete has been found therein before the development of the chancre (see above). Secondary epididymitis, either acute, subacute or chronic, is perhaps less uncommon than claimed. Late lesions are gummata or sclerosis, usually a combination of both.

Syphilis of the prostate is not well known. We have seen a number of cases which would lead us to admit that an old syphilis may be the pathological basis of some chronic cases of prostatitis in elderly people having a positive Wassermann, and whose prostatic condition improves under salvarsan and mercury treatment, while ordinary therapeutic measures are unavailing.

On the external *male genital organs* we chiefly have occasion to see chancres and secondaries, the latter usually papular or papulosquamous elements on the skin and mucous patches on the glans. Chancre of the foreskin deserves a special mention. When a young man who previously could normally retract his foreskin, comes to us saying that of late he has been unable to draw it back, a diagnosis of hard chancre can be made almost without further examination. I have never made a mistake, as yet, in such a case, and I fully believe the rule to hold good in at least 95 per cent. of the cases. Chancres of the urethra give rise to a purulent discharge from the canal which may, for a time, be mistaken for gonorrhea. They must be borne in mind and looked for.

Gummata of the male external genitalia are exceptional, barring those of the skin, among which we must mention those causing the development of so-called "chancre redux." It may be that some of the cases of sclerosis we fairly frequently see in the corpora cavernosa are due to syphilis. I recently saw a case where such a relation was suggested.

Mutatis mutandis, what has been said for the male genital organs may almost be repeated for the *female.* A chancre interesting on account of its location is chancre of the uterine cervix. The menstrual troubles and the painful manifestations so common during the secondary period are perhaps due to syphilitic ovaritis, akin to secondary epididymi-orchitis, as seen in the male; but whatever may be the truth about this relation, the existence of ovaritis itself during this stage is proved by palpation which detects a tumefied organ, either painless or tender to pressure. There may be concomitant fever, and the treatment has a very marked influence; but the importance of such ovarian lesion as regards hereditary lues can hardly be overestimated. Tertiary ovarian lesions are sclero-gummatous in type. In the uterus are observed in the late stages leucoplakia, gummata with ulcerations, sclerosis. Much still remains to be elucidated in this field. Some authors have noted simultaneous syphilitic and cancerous conditions in the uterus, and have tried to establish connections between the development of both. Syphilis is an extraordinarily frequent disease, and uterine cancer is far from rare, so it would take much more than a few isolated cases to take the question out of the realm of coincidence.

The uncertainty still existing concerning the nature of many syphilitic lesions in various organs apparently does not obtain in a very important group we now have to consider: that of syphilis of *the locomotor organs,* particularly of the *bones.* These rank among the best known and most characteristic syphilitic conditions, owing to clinical features which do not allow of their being overlooked, and to anatomical facts which give them a very special evolution. The dense structure of the bony tissue does not permit a free extension of specific new growths; hence, particularly strong pressure is exerted on nerve filaments, and intense pain is produced. Pressure on the arteries in the bony canals leads to marked necrosis and sequestrum formation. The dead parts can be eliminated only after a long and tedious suppurative process. Syphilis of the bones, therefore, is very painful and destructive; it often leads to disfiguring and tell-tale deformities.

The bone marrow is one of the favorite habitats of the spirochete which, as already stated, has been found therein even before the development of the chancre.

During the secondary period the lesions are rather superficial, and more particularly involve the periosteum or the layer of bone immediately subjacent. The round

cell infiltration may undergo an apparently complete regression, sometimes it becomes ossified with formation of a periostosis, with either thinning or hardening of the underlying bone.

Later skeletal lesions are diffuse infiltration or gummata. Thinning of the bone may result in spontaneous fracture or even fragilitas ossium. Necrosis of a gumma leads to destruction and to perforation when the gumma is situated in a flat bone. The caving in of the bridge of the nose, and perforation of the hard palate, are well known examples of serious deformity always due to syphilis. In the spinal column syphilitic conditions may closely simulate Pott's disease, especially in the cervical segment. The clavicle, sternum, ribs, skull and tibia are other sites of election.

In joints, syphilis in the early stages brings about arthralgia without permanent lesions, and hydarthrosis. During the tertiary stage, we may observe gummata of the epiphyseal region with destruction of the cartilage and infiltration of the periarticular tissues. This may easily be mistaken for tuberculosis, and sometimes has been called syphilitic white swelling, because of the clinical similarity.

The myalgia of the secondary period is merely toxic, and not associated with any actual muscular lesion. Gummata and sclerosis occur later.

It might seem that in syphilitic disease of the bones and articulations we have a well defined and known group, to which pathology has nothing, or but little, to add. Despite appearances, this is not true. Gaucher has said that many painful phenomena, diversely labeled as rheumatism, growing pains, tuberculosis of the bones, etc., are really due to the spirochete and its toxins, and the Wassermann reaction bears out his contention.

In the *respiratory tract* syphilis is not very common; the lesions created in the upper air passages are better known than those of the lung. Secondary laryngitis is easily curable; not so tertiary ulceration due to gummata. More or less extensive destruction, followed by grave and intractable stenosis is the rule, unless a prompt diagnosis leads without delay to appropriate and vigorous treatment. In the trachea and bronchi, the lesions are similar. In the lung we may find gummata, or what has been called interstitial pneumonia, or broncho-pneumonia with dilatation of the bronchi. Spirochetes are rare in those lesions, contrary to what happens in the pulmonary manifestations of hereditary syphilis. The syphilitic process starts in the sheaths of the blood vessels and in the peri-bronchial spaces; it follows the bronchi and causes broncho-pneumonia; when it reaches the alveoli it first produces congestion and desquamative pneumonia (white pneumonia); if it progresses slowly it eventuates in sclerosis of the connective tissue of the peri-bronchial spaces, of the bronchi themselves and ectasis of the latter. Vascular occlusions are followed by necrosis of the pneumonia foci. Syphilitic gummata are more frequently situated near the base or at the middle level of the lung. They do not destroy tissue as rapidly as tubercles.

A pathological association worthy of special notice is that of syphilis with pulmonary tuberculosis. If syphilis strikes a patient already having tuberculosis in an advanced stage, or if, conversely, tuberculosis supervenes in a man recently infected with syphilis, the prognosis of tuberculosis is markedly aggravated. If, on the other hand, tuberculosis occurs in the late stage of a pre-existing syphilis, it assumes a fibrous type and a torpid evolution.

Specific lesions of the *lymphatic and lymphoid organs* usually receive scant attention. However, their importance is primordial at all stages of syphilis. As already stated, the spirochete is above all a lymph organism and a blood organism only during the secondary outbreak and at infrequent intervals later. The lymph glands and the lymphoid organs afford the spirochete its most favorable habitat. It has been noted that it is very hard to disinfect completely a lymphoid organ which is the seat of the primary sore, the tonsil, for instance. The tenaciousness of the Wassermann reaction in bone syphilis is probably due to the persistency of spirochetes in the bone marrow. Most of the relapses during the secondary period are probably due to spirochetes coming from the lymphatic glands that are invaded early and *in toto*. The abundance of lymphoid follicles in the walls of the digestive tract accounts for the frequency of syphilitic lesions in said tract. In the later stages lymph glands may be the seat of sclerotic or gummatous, or mixed lesions. The perifollicular sinuses and the cavernous sinus of the gland are filled up with macrophagic cells. A generalized adenopathy simulating Hodgkin's disease has several times been reported. The spleen is affected in a similar way: tumefaction and congestion in the early stage, gummata, fibrosis, perisplenitis, amyloid denegeration later.

Lesions of the *eye* are among the most interesting in experimental syphilis, particularly in the rabbit, where they have been accepted by some authors as the equivalent of syphilis of the nervous system in man. Eye lesions are also common in hereditary syphilis; in acquired syphilis, besides a few cases of keratitis, we chiefly have to be concerned with iritis. It is generally stated and accepted that 50 per cent. or more of all cases of iritis are due to syphilic. Recent statistics, however, make this assertion appear somewhat exaggerated. Irons and Brown, in 100 consecutive cases of iritis, found that syphilis was the cause in but 23; there were 16 other cases in which syphilis was found in the anamnesis, but was clinically and serologically extinct; the iritis was then due, not to syphilis, but to the presence of a septic focus in the body, as conclusively shown by the results of treatment. Sixty-one cases were in non-syphilitics. Nevertheless, the frequency of specific iritis remains sufficient to uphold the time honored rule that iritis is suggestive of syphilis. That the iris is a favorable sojourning ground for spirochetal remnants is shown by the frequency with which secondary iritis is followed in later years by tertiary conditions. These, gummata, retinitis, choroiditis, chorio-retinitis, are always grave, and usually lead to complete loss of sight.

Attention has been drawn to syphilitic lesions of the *ear*, particularly of the labyrinth, by the frequency of neuro-recurrences in the zone of the acoustic nerve after salvarsan treatment. We have thus learned that syphilitis involvement is frequent, but is not much in evidence unless looked for or brought to the front by sensitization due to insufficient salvarsan treatment.

There now remains a group of lesions which bid fair to be very interesting, but about which our knowledge is still very deficient. I refer to syphilis of the *internal, secretion glands*, pancreas, thyroid, suprarenals, hypophysis. How great a part syphilis plays in the production of metabolic disorders due to morbid changes in these glands just begins to be dimly foreseen.

For instance, syphilitic disease of the *pancreas* is rated as rare. This may be true if only gummata and other lesions of the so-called classical type are taken into account. But, at first from the clinical standpoint alone, an interesting question has been raised as to the possibility of syphilitic lesions of the pancreas explaining the positive Wassermann reaction not unfrequently found in diabetes. I recently had such a case, in which,

in addition to glycosuria and the seroreaction, there was a marked leukoplakia of the tongue, and it was hard to reject the idea of a causal relation. Quite recently, Warthin has supplied direct pathological evidence on this point. In seven cases of diabetes he regularly found at autopsy syphilitic lesions of the myocardium and aorta and intralobular and interacinar interstitial pancreatitis; in five out of those seven cases he was able to demonstrate spirochetes. This led him systematically to study the pancreas in a large number of cases of latent syphilis. *In none was a normal pancreas found;* in all there was diffuse and patchy fibrosis with active inflammatory foci corresponding to the localizations of the spirochetes. Aside from the metabolic disturbances due to syphilitic lesions of the pancrease, it is highly probable that deficiency in the quality and quantity of the pancreatic juice, caused by said lesions, is the key of the problem in many of the intestinal disorders, apparently non-specific, so common a few years after the chancre

In the *suprarenals* gummatous and sclerous lesions have been observed, and also amyloid degeneration. How large a proportion of cases of Addison's disease are due to syphilis is not easy to determine, because tuberculosis of the suprarenals is often associated with the abovementioned lesions. The spirochete has been recovered from the suprarenals by Jacquet and Sézary.

Temporary congestion of the *thyroid* is seen in about 50 per cent. of cases during the secondary period. In the tertiary stage gummata and sclerosis are met with. The latter condition is very likely at fault in a good number of cases of myxedema. There also are instances of exophthalmic goiter improving under antiluetic treatment.

Hypophyseal gummata with glycosuria have been reported.

In *congenital syphilis* infection occurs through the placenta and the fetal circulation. It is, therefore, but natural that the organs most directly connected with the latter and hematopoiesis should be most vitally affected. Thus spirochetes have been found in the circulating blood, in the bone marrow (where their presence accounts for the frequency of bone lesions in hereditary lues); in the liver, where they are so numerous that this organ is one of the best antigens for the Wassermann reaction; in the spleen, where they are far more numerous than in acquired syphilis (splenomegaly is usually caused by hereditary syphilis); in the lungs, while they are rare in the lungs of adults. But there is practically no organ in which they have not been found. They have been demonstrated in the testicle and in the ovary: the latter fact explains syphilis in the second generation. This thorough impregnation of the body in heredo-syphilis is evidenced by the resistance of the Wassermann reaction in those cases. Space allows us simply to enumerate a few of the most typical lesions of congenital syphilis: pemphigus, keratitis, coryza, epiphyitis, deformities of the teeth, etc. Syphilis is the most important of all causes of congenital malformations.

After this, of necessity, very cursory summary of the pathology of syphilis, one cannot fail to be impressed by the enormous expansion the domain of syphilis has taken in all directions, since we have had at our disposal adequate laboratory methods. Not very many years ago, when I was an intern in the Höpital St. Louis in Paris, we used to consider Fournier as far too radical, and to claim half jokingly between ourselves that he answered syphilis whatever might be the nature of the case shown to him. And now we find that Fournier was right whenever he said syphilis, and that, if he erred, it was because he did not say syphilis often enough and did not go far enough in his conceptions.

This means that we have to revise our notions as to syphilophobia. Truly the real syphilophobe is a bothersome crank whom we all hate to see. But let us not forget that the number of those who clamor for treatment for a syphilis they have not is really trifling as compared with that of latent syphilitics who carry an infection of which they are not aware, and which it is our duty to find out and to treat.

Again, we must not be so dogmatic in our answers to the anxious queries of our patients concerning the possible syphilitic nature of minor, apparently non-specific, ailments. The usual answer they receive is that, because a man has had, or has, syphilis, there is no reason why he should not have a non-syphilitic condition, just as anybody else; and this is undoubtedly true in many occasions. But it behooves us to go slow and remember that many things formerly deemed non-specific have now been clearly shown to be syphilitic. Furthermore, it is quite within the range of possibility, nay, of probability, that syphilis modifies the evolution of intercurrent diseases. It has been claimed, with apparent good authority, that chancroid becomes phagedenic only in syphilitics, and the statistics of life insurance companies indicate a mortality of 10 per cent. higher from infectious diseases in syphilitics than in non-syphilitics. Bearing all those things in mind, and remembering the prevalence of the condition will enable the practitioner to score a therapeutic success in many a baffling case.

616 Madison Avenue.

OSTEITIS DEFORMANS.

Report of a Case.

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There are scarcely more than two hundred cases of this rare disease of bone on record. It was first described by Sir James Paget in 1876. He contributed 23 cases up to 1889. Wilks, in a careful study of these, excluded one case. In 1910, Higbee and Ellis collected 158 cases. Four years later, Dacosta, Funk, Bergeim and Hawk added 55 cases. During a period of seven years, in 38,000 admissions at the Jefferson Hospital, Philadelphia, there are but three recorded instances of this disease.

The writer was privileged to study the following case while associated with Dr. J. B. Bogart at the Kings County Hospital:

Thomas D., laborer, born in Germany, age 53, was admitted to the surgical service on Nov. 6, 1913, complaining of ulcers on the shins and pain in the legs. Attention was first drawn to bow legs by his friends about ten years ago. This has become gradually aggravated. He, himself had noticed no bony deformity, but when questioned in regard to the size of his hat, stated that the one he wore last year is now too small. He has experienced severe, constant pain in the legs for six months. He has had an itching eruption for six months about the chest, ankles, knees, elbows and scalp. The patient states that about ten years ago he struck his shins, since which time he has been troubled with ulcers which would heal for a time and subsequently break out again. He has had "rheumatism" for ten years. Venereal disease denied. As a child he had Measles and Whooping cough. He drinks three or four glasses of beer daily. A daughter has goitre.

Physical examination reveals a fairly well nourished and muscled, middle aged male of large frame. As he stands nude conspicuous features are the bow legs, wide pelvis, long arms, prominent clavicles and multiple superficial tumors. Head: Scaly eruption on scalp as described below. Measurements: Circumference, 23½"; Biparietal, 6½"; occipito-fronto, 8"; occipito-mental, 8". The thyroid gland is not enlarged. He is slightly deaf. Pupils equal and react to light and accommodation. Tongue coated, teeth poor. An eruption as noted below is present on the anterior chest. There is

marked deformity of both clavicles. They are enlarged, thickened, and show an increased curve, convexity forwards. The right is more prominent than the left. The lungs are clear. The heart shows hypertrophy of the left ventricle. A loud blowing systolic murmur is heard at the apex, transmitted to the left. Action irregular. The liver percusses small, otherwise the abdomen is negative. Extremities: The femora are bowed, convexity outward, the legs are bowed laterally as well as antero-posteriorly. Measurements of the pelvis: interspinal 11½", intercrestal 14½", intertrochanteric 14½". Total length of the lower extremities from the anterior superior spine of the ilium to the top of the internal maleolus 35¼". There is a soft lobulated tumor above the left elbow posteriorly. It is freely movable. Many other small, putty-like tumors, the size of marbles are situated along the anterior aspect of the left arm. Some are harder than others, some regular in outline, some lobulated. A large, irregular, lobulated one is situated on the posterior aspect of the right thigh. It, contrary to its fellows, is attached to the skin. The overlying skin shows enlarged veins.

An eruption, consisting of irregular, reddish-pink, rather definitely outlined patches, covered with silvery scales is located on the scalp, anterior chest, outer side of the left elbow, outer, anterior, and inner aspects of the left knee, inner aspect of the right knee, and inner aspect of both ankles. There are small superficial varicose ulcers ½ x 1" over the shins of both legs surrounded by purplish, poorly nourished skin. There are a few dilated veins in the vicinity. The genitals are normal, the pubic hair is scanty.

Laboratory reports: Six routine urinalyses showed nothing abnormal. Blood and spinal fluid showed negative Wassermanns. Unfortunately the laboratory was not equipped for studies in metabolism.

Since leaving the Kings County Hospital, the patient has suffered intense, migratory pains in the back of the head, thighs, legs, wrists and fingers. The patient passes sleepless nights on account of the pain. He is unable to walk more than a few blocks without tiring. For the past eighteen months he has been under the care of Dr. E. M. DeCastro, who states that upon one occasion there was cardiac decompensation with marked swelling of the limbs. Urine examined April 10, 1916, shows acid 1021, no alb. or glucose.

When the patient was examined by me April 3, 1916, after an interval of twenty-eight months, measurements in general show an increase in size of the skeleton. The clavicles appear more prominent. The circumference of the head is now 24 inches, an increase of ½ inch. The biparietal is 6½ inches. The occipito-frontal is 8½ inches, an increase of ½ inch. The occipito-mental is 8½ inches. The pelvis shows a more marked increase. The interspinal is 13½ inches, an increase of 2 inches. The intercrestal is 16½ inches, an increase of 2 inches. The intertrochanteric is 14½ inches. The total length of the lower extremities shows an increase of 1¾ inches (37 inches). Previous height and weight not recorded; present height 5 feet 9½ inches; weight, 194½ lbs.

Through an oversight, microscopic study of the multiple tumors was neglected when a patient at the Kings County Hospital. Recently a small characteristic growth was removed under novocain anesthesia and pronounced by Dr. E. B. Smith to be lipoma.

A growth similar to those previously described has appeared in the outer and lower quadrant of the left breast. The varicose ulcers are now healed. The eruption persists as previously noted, except that it has disappeared from the scalp and region of the left knee.

Description of the x-ray plates. There is marked thickening of the cranium, particularly in the lower occipital region. The humerus shows marginal thickening. The medulary canal is not encroached upon. The characteristic point is the marked thickening of the cortex without a corresponding narrowing of the medulary canal. It is a differential point from Syphilis. Here we also find some irregularity in the margin, degeneration occurring at some points, thickening at others. The only change that was shown in the plates of the forearm was thickening of the right radius. The hands appear free. The upper parts of the shafts of the femora are so large as to make the head and neck appear quite small in comparison. In the lower portions, the diameter is also out of proportion to the size of the condyles and there is an area of thickening. The only point in the bones of the feet is degeneration in the heads of the metatarsals.

Comments.

Interest centres especially in the etiology of this rare disease. It is to be noted that about 67 per cent. occur in males, 7 per cent. show family involvement, the latter indicative of heredity as a factor.

Elsna and Kutscha deny that syphilis is a factor in uncomplicated cases. There is little to justify the belief that bacterial infection is to be regarded as a predisposing cause. The neurotrophic theory is based upon the analogy found in certain bone dystrophies and nervous disorders. It is not held, however at the present time that the lesions of osteitis deformans are dependent upon changes in the nervous system.

Da Costa and his co-workers have recently concluded from exhaustive studies in bone metabolism of this disease that the disorder is due to lack or perversion of some internal secretion. There is much in favor of this theory. Gigantism and acromegaly are examples in which bone metabolism would appear to be dependent upon some lack or perversion of the secretion of the pituitary gland. MacCallom and Voegtlin have demonstrated that the removal of the parathyroids is followed by an increased elimination of calcium. The osseous lesions of cretinism in which the thyroid is concerned offer an hypothesis.

The detailed studies in an early and late case of osteitis deformans made at the Jefferson Hospital may throw new light upon the cause of this disease. Da Costa and his collaborators found in the advanced case a marked retention of calcium, magnesium and phosphorus. This is thus the reverse picture to certain extent seen in osteomalacia. The marked retention of calcium in this case, the principal element concerned in bone growth may be related to the abnormal deposition in the skeleton. Available analyses would tend to support this, in that the increased development of bone or bone-like structure in osteitis deformans is accompanied by calcification of these parts. Every available opportunity should be seized for the intensive study of these cases, along these lines. The writer indulges the hope that he will be able to report upon these studies at some future time.

280 Jefferson Ave.

Dental Manifestations of Syphilis.

Some of the manifestations of syphilis, which come under the observation of the neurologist, are also of interest to the dental surgeon. In congenital syphilis the teeth are deformed and present certain characteristic appearances, which have been described by Jonathan Hutchinson. They are peg-shaped, stunted in length and breadth, narrower at the cutting edge than at the root, with well-formed enamel on the anterior surface and a notch at the cutting edge. According to Fournier and Darier, the first permanent molars show an imperfect formation of enamel on the crowns and a growth of the softer dentin into irregular projections. On account of this, these teeth decay very early. As they appear before the permanent incisors, they may furnish a valuable help to diagnosis.

In the later stages of syphilis, and particularly in tabes dorsalis, the alveoli and the jaws may deform rapidly, and the teeth fall out. During these changes, the fitting of dentures proves unsatisfactory. This is another reason why the dental surgeon will find it to his advantage to learn to recognize the disease from the cardinal symptoms, which have already been given in this paper.—(*Dental Cosmos.*)

A NEW VIEW OF ALCOHOLIC DEGENERATION.

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The confirmed inebriate or alcoholic has unmistakable marks of degeneration. His face and sensory activities may not show this very sharply, but the test of judgment and vitality reveals a weakness that is sustained by his abnormal conduct. Persons who have not reached advanced stages may appear to be in comparative health. Catarrh and respiratory troubles are complained of and attributed to certain local conditions. Digestive disturbances cause the patient some concern, and visits to the family physician. Constipation and irregular elimination are other symptoms which may call for medical help. A little later there will be a succession of pains in the extremities, stiffness and hypersensitiveness to cold, and these will be ascribed to rheumatism.

For quite a long time, these will constitute about the only symptoms that will seem to indicate impaired vigor. Later the heart will begin to palpitate and from the least over-exertion difficult breathing will start up. The patient will become alarmed then and some officious doctor will discover enlargement of the liver, albumen in the urine and perhaps oncoming heart disease. Then the door will be opened for fears which will take on all sorts of forms. The patient will discover that he is overworked, that he is carrying great loads of responsibility, that he must give up cares and business ambitions. He will travel long distances in search of health, formerly to Europe, laterly to the far West and South.

In the meantime, he continues to use alcohol just as before; so much before eating and so much before retiring at night. Some physician may advise him to stop it, but he will reason that this will produce a shock, and that the small quantity he uses can be of no possible harm. Counsel to diminish his diet and cut down meats will be accepted for a short time, and this will seem to be unfavorable, because of new symptoms that appear, so he will go back again to his usual diet, diminishing the quantity.

This condition may continue for two or three years. In the meantime, he will become more and more disinclined to exercise, appear to be stouter, take on flesh, still complain of heart symptoms and the physician will discern signs of nephritis. Then some day, there will come a chill, and later congestion and pneumonia appears. Physicians will be called in counsel and the dread of collapse from the withdrawal of spirits will be dominant, hence spirits will be increased. Then follows collapse and death. The physician and the family will seem to be in doubt about the actual causes, and a post mortem will follow. The adrenals, both the thymus and thyroid glands will be found atrophied. The other organs will show little or no changes, except general sclerosis and fibrinous deposits here and there, and the real facts will remain a mystery to the physician as well as the family.

Assuming that there was a degree of normal health and vigor at the start, it can be stated with positive certainty that alcohol taken regularly, even if in small quantities, destroys the oxidization and metabolism of the system. The power of the blood to take up oxygen is diminished, and the output of carbonic acid reduced. Thus a slow continuous process of poisoning begins and increases, little by little, through the days and the years; a continuous progressive toxemia. The ductless glands become more feeble every year and their protective power to the body is lowered. The secretion necessary to make healthy cells and growth are diminished, and the waste accumulates and general perversion of the metabolic activities of the body follows. The organs and functional activities of the body become weaker and nutrition lowered. Thus all unconsciously the patient commits suicide. The glands at first excited by the presence of alcohol become inactive and lowered and finally lose their function. The symptoms of derangement ascribed to local causes had a far deeper meaning that was not recognized. In the future the physician will realize the significance of the poisonous action of alcohol, in absorbing the oxygen and depriving the system of what is needed and stop this poison at once.

Another example quite as common, and yet equally mysterious, is that of an active brain and muscle worker, who has distinct periods of alcoholic excess, during which he craves the narcotism of alcohol and does not seem satisfied until this narcotism is pronounced. He then abstains and from a variety of symptoms appeals to the medical man for relief from shooting pains through the extremities, stiffness of the joints, constipation, associated with exhaustion and tenderness over the liver. A careful examination shows no particular organic trouble, but any little over-exertion affects the heart and produces a feeling of great exhaustion. Various causes are assigned for these conditions, and various farsical efforts are made to overcome them. Finally some circumstances center in a sense of extreme fatigue and sleeplessness for which spirits are taken as a remedy and in a short time another alcoholic paroxysm follows, in which the patient continues to drink until profoundly stupid. Then recovery follows and during the free interval all sorts of means and measures are used to regain his former vigor, and overcome transient functional conditions. The physician and friends seem to concentrate their efforts on the psychical side, and try to create an impression of fear or ambition or determination to avoid all use of alcohol in the future. Sometimes they succeed, but in the large proportion of cases, relapses occur and the patient has another drink attack, and the free interval that follows is more disturbed than ever. After several years of these disturbing, confusing symptoms, the patient dies, and the post mortem reveals about the same conditions, cirrhosis of the liver and arteries, and general atrophy of the ductless glands. Some may be abnormally enlarged, but all are obviously broken down and have long been out of service.

Here the same causes are at work. The convulsive poisoning of the system up to the point of narcotism fell on the ductless glands, as sharply as on any other organ, and their oxygen stimulating qualities were suppressed, and never resumed again with the same vigor. The presence of toxemias was encouraged to the extent that the system was always harmed and injured by the perversion of the adrenal and thymus secretions.

The capacity of the blood to prepare proper cell protoplasm was lowered and general and profound perversion prevailed. The body was not only shocked, but poisoned by alcohol. The toxic states very likely produced traumas, congestions, deranged circulation here and there. At all events the recovery from these conditions was very slow and protracted and perhaps never full and complete. The symptoms that were complained of in the free intervals pointed to this con-

dition, and yet were ascribed to other causes. The heart, like other organs, faltered and became irregular. The nerve force which was called for to supply its activity was wanting. The brain, like the organs, suffered, was weakened, was unable to endure the former strain. The person was recognized as having an altered mentality. He was not crazy, he was not sound; he was not reliable. He seemed to have lost his purpose and object in living, and his sensory responsibility. Then some day he dies suddenly, either from concussion, shock or actual fracture of some blood vessel. This is only an outline, but it describes in unmistakable terms special conditions which prevail to an extent practically unkown at present.

There is another outline of the same causes which will be recognized in the future. Thus the children of drinking parents show remarkable feebleness, degrees of idiocy, backwardness, retarded developments and a most unusual grade of actual degenerations that create alarm and wonderment. When some discerning physician concludes that the condition is defective and retarded growth of the ductless glands and begins a system of organ-therapy with astonishing results, there seems to be a confirmation of his theories. Quite a literature has grown up in this field. Mental impairments, imperfect development and retarded growths, symptoms of profound degeneration, have disappeared when vigorously treated with organ-therapy. Thyroid extracts have come to be a medicine and their use seem to be fully justified. Theoretically there can be no question, but the ductless glands of both parents are impaired by the use of spirits and the possibility of the child being born with defects of these organs is also certain. They may not be absent, but their activity is lowered to the extent that the function they perform is nil. It is the observation of very acute observers, of children, of parents, where one or more of them have drank spirits, that a very large percentage are defective, not always in one particular way, but somehow they are feebler, with lower vitality and succumb to the ordinary diseases of childhood more positively than children of better parentage.

It is also observed that a very large proportion of children with degenerate ancestors are defective physically. They have faults of growth and structure and seem hypersensitive to the surroundings, or the opposite, dull and stupid, not recognizing sounds or being affected by adverse conditions. The laboratory shows beyond question that both the male and female germs are deficient and defective, particularly where alcohol is used, and that the result is always a defective growth. This has been established by experiments and can be reproduced at will, in both animal and vegetable life. If alcohol has such a profound effect on the ductless glands, it will certainly show in the progeny, and this is amply confirmed. There are a great many persons who use spirits and suffer from a confusing group of symptoms, prominent of which are low temperature, cold extremities and deficient circulation. The hair and the nails are brittle and drop off. The patient becomes bald early. His skin is dark and dry. These and other symptoms, according to good authorities, refer back to the thyroid deficiency. Where persons die this gland is found atrophied. Associated with this is a mental torpor and lack of ambition and purpose in life.

There is another class of symptoms associated with obesity and disposition to take on flesh, brittleness of the bones and very slow healing. Evidently some condition of osteomalacia exists and defective assimilation of calcium. This would suggest thymus defects. Another group of symptoms seem to point to adrenal degenerations. Here the heart is irregular. The blood pressure is low. Constipation is prominent and pigmentation in spots over the body is also prominent. With this there is sensory weakness in a great variety of forms and conditions.

Several authors have called attention to what they call the stigmata of pituitary degenerations, the prominent symptoms of which are headaches, atrophies, hypertrophies, tendency to adiposis, general weakness of the heart and a very complex group of symptoms that are both organic and functional in their significance. These appearing in persons who use spirits are at least suggestive of the complication with the ductless glands. The ordinary pathological studies of chronic inebriates and alcoholics show cirrhosis and sclerosis as very common, also local congestions here and there and general degenerations of both cell and tissue. It is assumed that hypertrophy and atrophy are common to all the glands, but no special studies have been made of the condition of the ductless glands, and this is probably a field of research that will yield the richest results.

One fact seems not to have received much attention, namely, that alcohol diminishes the oxygen-carrying properties of the blood, that there is less oxygen absorbed by persons who drink than by the abstainer. Recently some very remarkable studies have been made of respiration and expiration, showing that many of the disorders, both preceded and associated with the use of spirits, depend to a degree on the capacity to respire and expire. Defective breathing is the term, and in young and very old persons and in those leading sedentary lives, there is a great deal of evidence showing how far it impairs the vigor and how great the improvement is, when the person learns how to use this function properly. This is another undiscovered field, and undoubtedly has more or less influence in continuing the exhausted condition for which alcohol and drugs are most grateful. Evidently our knowledge of the subject is going to be immediately widened in the near future, and new fields of study are opening on all sides.

Extraction of Projectile from the Heart.

A. Beaussenat reported to the Académie de Médecine (*Il Morgagni*, March 31, 1916) the case of a young sergeant operated on for a wound of the heart caused by a projectile which had remained free in the right ventricle, and was extracted four months and a half after the infliction of the wound. The patient was struck on October 1, 1914, by a fragment of grenade which, passing through the diaphragm, the pericardium and the whole thickness of the cardiac muscle, penetrated into the right ventricle. It measured one and a half centimetres in length by one and a half in breadth and three millimetres in thickness; it weighed 15 grams. It was extracted on February 17, 1915. The heart was opened and the projectile was seized, not without difficulty, with forceps and removed. The heart was immediately sutured. In three days intense dyspnea came on with grave symptoms of collapse. There was moderate fever with slight pulmonary symptoms, which disappeared in a few days. A month after the operation the patient could be regarded as absolutely cured, and at the date of report the heart's action was normal and the cure seemed to be definitive. Two similar cases are, says Beaussenat, on record, one published in 1909, the other in 1910. These showed the prolonged tolerance by the heart in regard to metallic foreign bodies, as in one the patient died after four months and a half, the second after seven months. In these cases, however, no operation was done, and the projectiles were only found at the autopsy.—(*Brit. Med. Jour.*, May, 1915.)

Kernig's Sign, due to a slight stiffening of the hamstring muscles, resulting in the patient's inability to keep the knees extended if the hip is flexed, is indicative of meningitis.

THE PRESENT SCOPE OF MEDICAL JURISPRUDENCE.*

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There seems to be considerable misapprehension in the minds not only of the laity but also of the members of the three professions that are particularly identified with the study of medical jurisprudence,—the lawyers, the physicians, and the chemists, as to what questions fall within its scope. Without any investigation whatsoever, most people think that the science of medical jurisprudence occupies itself exclusively with the procedure in courts of justice, in cases where both law and medicine have a bearing upon the questions to be determined, and it is true that this formerly was the main field of activity on the part of persons interested in medical jurisprudence, including text writers on the subject.

During the past decades, however, this scope has been materially widened and the sphere of medico-legal discussions and investigations has more and more tended to turn around questions affecting the public in general, such as are mainly regulated by legislation.

This branch of medical-jurisprudence is based upon the police power of the State, and that suggestion at once discloses its manifold and interesting aspects. In fact, it is a far more fruitful, important and attractive field for studies and labors of a society such as ours, than the much narrower and hackneyed topics which fall within the purview of forensic medicine. When we have read Beck and Ordonaux and Taylor and Witthaus, and have considered, digested and discussed, from all points of view, the subjects of expert medical testimony, wounds, poisons, infanticide, insanity, death, the questions arising from the use and abuse of the sexual relation, and so on, which, while not to be slighted or disregarded in a society of medical jurisprudence, are yet, of minor importance compared with questions of public health, welfare, safety, etc.—which affect and interest every individual and are constantly up for discussion, it must be conceded that these last deserve at least the same, if not far more serious treatment, especially at the hands of a national society.

In searching the records of the Society of Medical Jurisprudence of the City of New York, from which the national association sprang, I find that from January 1, 1901 up to January 1, 1916, out of 120 papers read before the New York Society, the subjects relating to these public questions have been fully one half including such topics as: food adulteration; capital punishment; faith cures; drinking water; drug adulteration and harmful proprietary medicines; commercialism in certain drugs; clean streets; reformation of criminals; health department; public health police regulations; medical quacks; medico-legal rights of the soldier; condition of police stations, etc.; crimes and criminals; control of noises; legislation concerning physicians in Germany; constitutional aspects of medical laws; honesty in our professions; sanitary protection of New York bay; new prospective era of medicine; reciprocal relations of legal and medical professions; decay of nations; capital punishment; duty to immigrants; open air schools for children; workmen's compensation; legislative regulation of vivisection; alcoholism in women; marriage and divorce; tuberculosis in prisons; regulation of infantile paralysis; control of habitual drunkards; use of "606" and the Page law; hereditary criminality; laws relating to alleged insane persons; treaty powers under United States constitution; housing problem in cities; accident prevention in steel industries; the problem of the alien insane; hospital service in Germany and the United States; legislative remedies regarding occupational diseases; better housing of prisoners; eugenics; identification of criminals by identification systems; functions of boards of health; health conditions in public schools; management of prisons; teaching sex hygiene; narcotic legislation; correcting physical defects in school children to correct poverty and crime; commitment and discharge of criminal insane.

In considering the periods during these fifteen years, when these papers were read, it discloses an almost unvarying increase in the number of papers on these public questions and the society itself has grown correspondingly in power and influence and there has been more and more interest manifested in its work. The reason for this may be, to a large extent, found in the general tendency in this country to follow the examples of the nations of Europe, especially Germany, in enacting legislation which the Germans aptly call "Wohlfartsgesetzgebung" (welfare legislation) such as "workmen's compensation," "widow's pension," etc.

In this wider public field, the number of subjects is almost unlimited, in comparison with those which have so far been considered by the New York society since its incorporation on March 5th, 1883. But even the subjects which have already come up for consideration before that society are of so far reaching a nature that any single one of the topics may well serve as a fruitful and useful basis for study and discussion in all its various phases, time and again.

And yet, on the other hand, the mere mention of some of the foregoing subdivisions of this more public branch of medical-jurisprudence will at once disclose what a vast field still remains to be surveyed and cultivated.

Among subjects which have not at all or scantly been considered I may mention such as: the regulation of contagious and infectious diseases; public and private nuisances; revision of medical practice acts; regulation of markets; regulation of burial; sanitary building; control of animals used for food; vital statistics; drainage; disposal of garbage; sanitary clothing, and in short, all those subjects which fall within the police power, in the regulation of which law and medicine or surgery must be consulted.

Also in the field of accomplishing actual results, in the way of needful reforms through legislation or administration of the laws, as the outcome of our studies and discussions, the branch of the science which I am now more practically considering is far more promising than the narrow subject of forensic medicine. The practice, methods and procedure in judicial tribunals are so well established by thousands of precedents throughout the ages, that there is little cause or encouragement for disturbing these, except possibly the rules of evidence. But even these are sanctioned by time and reason to such a degree as to admit of but limited improvement and, moreover, any propositions for radical changes therein are sure to meet with strenuous and effective opposition.

Not so, however with medico-legal questions of a public character, the limit for improving the various matters which they embrace, being restricted only by the police power itself and this power is practically unlimited.

*Read at the fourth annual meeting of the American Association of Medical Jurisprudence at Washington, D. C., May 6th, 1916.

While the courts have shrunk from defining this illusive, elastic and largely discretionary function of government called the police power they have frequently dwelt upon its scope and vast importance. To cite only a few cases in the highest court of N. Y. State:

In People vs. Rudd, 117 N. Y. 1, 11, it is held that, under the police power, authority resides in every sovereignty to pass all laws for the internal regulation and government of the State, necessary for the public welfare.

In People vs. Havner, 149 N. Y. 195, 201, it is held that under the police power of the State any act, which has a reasonable connection with the public health, welfare or safety is valid, and in People ex rel Fecharnous vs. Warden of City Prison, 144 N. Y. 529, 531, that the natural right to life, liberty and the pursuit of happiness must yield under the police power, whenever the concession is demanded by the welfare, health or prosperity of the State.

It is only subject to constitutional limitations (re Jacobs 98, N. Y. 98, 110), but within such limitations its extent is entirely in the legislative discretion and it is conceded to the legislature for the welfare of the community. (People vs. Ewer 141, N. Y. 129, 132.)

But even in the cases just cited no attempt is made at a definition of the police power.

In fact, in People vs. Rudd, 117 N. Y., page 14, Andrews, J., uses this language: "The generality of the terms employed by jurists and publicists in defining this power, while they show its breadth and the universality of its presence, nevertheless leave its boundaries and limitations indefinite, and impose upon the court the necessity and duty, as each case is presented, to determine whether the particular statute falls within or outside of its appropriate limits. 'It is much easier,' said Chief Justice Shaw, Comm. vs. Alger, 7 Cush. 53, 'to perceive and realize the existence of the power than to mark its boundaries or to prescribe limits to its exercise.'"

While, therefore, every measure which may be proposed by our society, falling within that important branch of the police power, designated as the public health and kindred subjects, should be closely scrutinized in order to determine whether it may not fail because violative of state or federal constitutional restrictions, yet, on the other hand, the liberal and broad spirit in which the courts have sustained the exercise of the police power and the difficulty of determining in advance how they may look upon any particular phase of its exercise, should rather tend to encourage us to make a constant effort to accomplish some practical results. We should endeavor not only to further but to originate all possible measures, from time to time, which may reasonably be regarded as a real step in advance in the direction of preserving life or improving the public health. We must not forget that mere academic discussion, while interesting for the time being, will in itself never constitute our society an important or permanent factor in the community. Not only "investigation" and "study" must be our particular object and business, but "*advancement* of the science of medical jurisprudence" in its broadest sense. Advancement, however, is only possible through active propaganda of our views and convictions until they become incorporated as a part of the Medical Jurisprudence of the States. As it is impossible to speak of advancement in the science of law without legislative enactment or practical application in the judicial forum, or advancement in the science of medicine without experiment or practice in actual cases—so also advancement in the science, to which this Society is devoted, is inconceivable if we fail to work for tangible results. Especially does this hold true in that great branch of our studies which embraces those questions of a public character, to which I have directed your attention, and in which not only we are immediately interested in practising our respective professions, but which are of such vast and universal importance that they affect the health and even life of every member of the community.

Let us make it our aim to advance more especially in the direction which I have urged upon you. In that way, I believe we may best further the interests of this Society by increasing its influence and membership to such an extent that it will really grow to be a lasting and potent agency for the advancement of the science of Medical Jurisprudence in *all* its branches.

There can be no growth without progress, and progress is impossible without constant activity not only in theoretical study and discussion but in the endeavor to achieve practical results.

In order to bring about these results, and the consequent growth of our society in numbers and in influence, all over the land, we must each of us, however, contribute our full quota in painstaking and unremitting labor. Nothing great or notable is accomplished spontaneously. Whenever I hear the contrary sentiment, there comes to my mind a remark attributed to Rufus Choate, when complimented at his great luck in winning a very difficult case: "Luck!" he said, "nonsense! You might as well say that you can throw down the Greek alphabet at random and all that you have to do is to stoop down and pick up the Iliad!"

HERNIAS OF THE URINARY BLADDER.

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The permanent or temporary escape of a part or the whole of the urinary bladder, through any of the usual or unusual hernial orifices, is uncommon. Nevertheless, many cases have been published and a much larger number have been allowed to pass without record. In a long series of hernia operations, every surgeon is certain to meet with some instances of hernia of the bladder. The urinary bladder in part or in its entirety is present in 1 per cent. of all hernias.

Though the term hernia implies the presence of a hernial opening, of a hernial sac, sac-contents and sac-coverings, we know that in many hernias of the urinary bladder, the sac is either incomplete or totally absent. To designate the clinical entity under consideration, we fail to find any other term more appropriate, more sanctioned by long usage, than that of hernia of the urinary bladder. Many operators have unknowingly punctured, incised, ligated or removed a herniated bladder-process and then closed the hernial canal and operative wound in the usual way. Bladder protusions have been excised by mistake for hernial sacs, or stitches used to close hernial canals have been passed too deeply and found at the necropsy to have caught the bladder.

An analysis of all the vesical hernias reported with sufficient data in the English, French and German languages from 1896 to 1914, inclusive (literature to which access can be had at the John Crerar Library, Chicago), and also of some unpublished personal cases (in all one hundred and fifty-nine patients, representing one hundred and sixty-four vesical hernias), justifies, in our opinion, the following conclusions:

1. The urinary bladder, in part or in its entirety, may escape from the abdominal and abdomino-pelvic cavities through any of the uncommon or common hernial orifices of the lower abdominal wall.

2. Hernias of the urinary bladder occur in both sexes, at all ages, and in all races. They are congenital or acquired, recurrent, recent or of some standing; almost always unilateral, very rarely bilateral. Like other

hernias, they vary in shape, size, rate of growth and in the discomfort and disability which they entail.

3. In the female, vesical hernias occur in nulliparæ, primiparæ and multiparæ; they occur previous to, during, or after gestation and between gestations. They neither interfere with gestation nor disturb parturition.

4. According to anatomical site, vesical hernias are designated as hernias of the linea alba, of the obturator, femoral or inguinal regions. Anatomical relations justify the further subdividing of the two latter types into interstitial or intra-parietal, direct or indirect, complete or incomplete, pudendal or scrotal.

5. The relation of the herniated bladder-process to the serous membrane lining the peritoneal cavity is well expressed by the terms: Intra-peritoneal, para-peritoneal and extra-peritoneal. These designations are serviceable from the viewpoint of etiology, symptomatology and treatment.

6. According to clinical manifestations, hernias of the urinary bladder are reducible, irreducible, inflamed or strangulated.

7. A vesical hernia may be single, double, or one of two or more hernias located on the same or opposite side of the body, having dissimilar contents, and presenting like or unlike anatomical and clinical characteristics. Thus, the same patient may present an inguinal cystocele and a femoral epiplocele, a reducible femoral vesical hernia and an irreducible inguinal intestinal hernia. Case reports of an inguinal vesical hernia on one side coexisting with an inguinal enterocele, epiplocele or entero-epiplocele on opposite side of the body are not uncommon.

8. As etiological factors, in the causation of vesical hernias, the following are foremost:

a. All conditions that tend to increase intra-abdominal pressure.

b. All conditions, congenital or acquired, that weaken the abdominal wall.

c. All diseases of the lower urinary organs that impair the expulsive force of the bladder or abnormally hinder the outflow of urine.

d. Pre-existing hernias and hernial sacs of pre- or post-natal origin.

9. The pre-operative signs and symptoms may be unmistakable, vague or absolutely wanting. In addition to such symptoms as are common to all other hernias, vesical hernias present peculiar suggestive and positive manifestations of their existence. Chief among the former are such disturbances of micturition as the following: Frequent, painful and difficult urination, vesical tenesmus, urgent desire to urinate caused by pressure upon hernial swelling and two-step urination. Chief among the positive manifestations are: A hernial swelling increasing in size with urinary retention and decreasing with urination; increasing in size with air- or water-distention of the bladder and decreasing upon withdrawal of these agents; passage of a sound into the herniated bladder-process by way of urethra and bladder; cystoscopic demonstration of the vesical orifice of the herniated bladder-process.

10. The herniated bladder-process may be the sole content of the hernial swelling, or merely one of the associated contents. In addition to a bladder-process, a hernial swelling may contain, a part of one or more of the following organs: ureter, Fallopian tube, ovary, appendix vermiformis or appendix epiploicæ, omentum, and small or large intestine.

11. The herniated bladder-process may be free or adherent to surrounding tissues or organs, structurally normal or present degenerative, inflammatory or neoplastic changes; may be the seat of atrophy, hypertrophy, catarrh, gangrene, tuberculosis or carcinoma, and may or may not communicate freely with the general vesical cavity. The herniated process of bladder may contain one or more calculi.

12. The vesical hernia may be the sole existing anomaly, or it may be one of two or more, congenital or acquired, pathological states, having or not having any relationship of cause or effect to the hernia (cryptorchism, vaginal cystocele, prolapsus uteri, prostatic hypertrophy, etc.).

13. Truss treatment for hernias of the bladder is not curative, is often productive of discomfort and may injuriously affect the structure of the bladder-wall.

14. In patients over ten years of age, all hernias, irrespective of anatomical site, clinical condition of contents, should, in the absence of a constitutional state contra-indicating operations of election, be subjected to an operation for radical cure.

15. Clinical conditions so closely simulating hernias of the urinary bladder that a positive diagnosis without operation appears impossible, should be subjected to operative treatment. Only benefit can be derived from adherence to this rule. A diagnosis is established and a cure is effected.

16. All hernias of the urinary bladder, irrespective of sex, age or social condition of patient, irrespective of size, shape, anatomical site or clinical type, call for operative treatment. Operative treatment is free from danger and is curative. The only contra-indications to operative treatment are: Extreme old age and the coexistence of a pathological state or states contra-indicating operations of election. Operative treatment is the only rational treatment of hernia in the adult.

17. Operative intervention is indicated in all incarcerated and in all strangulated hernias of the bladder.

18. In all hernias, the ideal time for operation is previous to the development of degenerative or other pathological changes in the herniated organ or organs and previous to the occurrence of any of the various complications incident to hernias.

19. Women who suffer from any form of hernia should be carefully watched before, during and after their confinement, so as to prevent or rather minimize any undue strain upon weak regions of the abdominal wall. Those women, at the close of lactation or towards the end of the first year following their confinement, should, in the absence of contra-indications, be subjected to an operation for radical cure of the hernia. In the female, the inguinal rings are comparatively small. They can without inconvenience to the patient be closed.

20. The most popular and efficient modern hernia operations permit a full view of operative field and allow such a careful examination of hernial rings, canals, and surrounding structures, that a prolapsed or herniated bladder-process rarely escapes detection.

21. In inguinal and femoral hernia operations, after careful opening and isolation of the sac, see that the latter consists preferably of peritoneum only, and that its neck be freed from all other structures. Neck of sac should not be twisted, as by so doing the bladder is drawn towards the hernial opening and is liable to be included in the ligature. Necrosis and peritonitis result therefrom.

22. In the course of a hernia operation, if, after opening the sac and reduction of its contents, there appears a second sac, it is not to be opened, unless the introduction of a sound in the bladder shows the complete independence of this sac from the urinary reservoir.

23. In hernias of the urinary bladder, first expose and free the herniated organ or organs, and then reduce it into the abdomino-pelvic cavity. Follow this by suppressing the hernial sac if one be present, and then strengthen, according to an approved method, the weakened hernial area. Resection of the herniated bladder-process is only exceptionally indicated. When performed, it calls for immediate reconstruction of the urinary reservoir.

24. During hernia operations, the wounding of the urinary bladder can, to a large extent, be prevented by careful operating and by keeping in mind that this clinical entity occurs.

25. Wounds of the urinary bladder inflicted during the course of hernia operations give a good prognosis if they be immediately repaired and if the post-operative treatment be instituted appropriately. In the repair of bladder-wounds, two or three layers of continuous or interrupted absorbable sutures gives satisfactory results. Bladder suturing is to be followed by refection of the abdominal wall of the hernial area.

26. If within twenty-four to forty-eight hours after a hernia operation on a healthy subject the catheterized urine contains blood, determine the origin of the blood. If a bladder-injury be present, open the hernial operative wound or laparotomize or do both and repair the injury.

27. The mortality of operations for the radical cure of hernia, if performed at an opportune time by a rapid and skillful operator competently assisted, is practically nil. Coley operated 1,000 consecutive cases of hernia without a single death.

28. The operative treatment of hernias of the urinary bladder is highly satisfactory.

INTERMITTENT INCONTINENCE OF URINE ASSOCIATED WITH UTERINE DISPLACEMENTS.

From the Surgical Clinics of

WILLIAM FRANCIS CAMPBELL, A.B., M.D., F.A.C.S.

PROFESSOR OF SURGERY IN THE LONG ISLAND COLLEGE HOSPITAL.

Brooklyn, New York.

Case I.

History: Patient, female, forty years old, enters the hospital because of *incontinence of urine.* Associatet with this are backache, bearing-down pains and severe occipital headache. She is the mother of five children and dates her trouble since the last childbirth—nine years ago. It began with a moderate degree of incontinence which was produced by lifting, sneezing, coughing or laughing—any sudden increase of intra-abdominal pressure is followed by a gush of urine. The backache and bearing-down pains have increased in severity and the incontinence is a serious handicap in her profession as a trained nurse. During the past month she has worn a pessary but without benefit. Her periods are of the twenty-one day type and last for two days. There is no leucorrhoea.

Examination: There is a moderate laceration of the perineum with general sagging of the pelvic floor. The uterus is of normal size and prolapsed to the second degree. Slight cystocele and rectocele.

Operation: First, we repair the pelvic floor by doing the usual perineorrhaphy. Our operation consists in dissecting the posterior vaginal wall from the rectum, taking out a wedge-shaped piece of the posterior wall, and reconstructing the vaginal tube so that its caliber is considerably diminished. This reconstructed vaginal

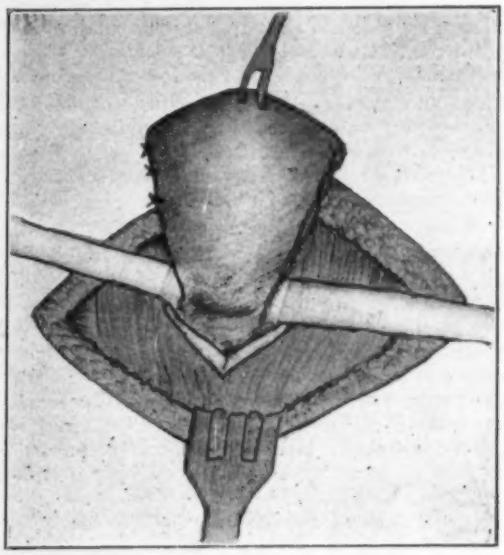


Fig. I.—Uterus drawn out of abdominal cavity and divested of the broad ligament. (After Murphy.)

tube is supported by suturing the soft parts beneath and thus building up a new perineal body.

Second, we shall perform Murphy's ventral implantation of the uterus, which lifts up the whole pelvic floor and holds it up permanently.

The abdomen is opened by a median incision; the uterus is brought out through the opening, and the broad ligaments clamped, divided, and ligated down to the cervicocorporal junction. The body of the uterus is now free above the level of the recti muscles (Fig. I). Next we suture the peritoneum around the cervicocorporal junction, thus making the body of the uterus an extraperitoneal organ. The uterus is now split anteroposteriorly through the middle as far down as the cervical junction and opened out laterally. The mucosa is thoroughly excised and removed down to the cervix. The two lateral halves are sutured to the rectus muscle and the muscle tightly closed around the cervicocorporal

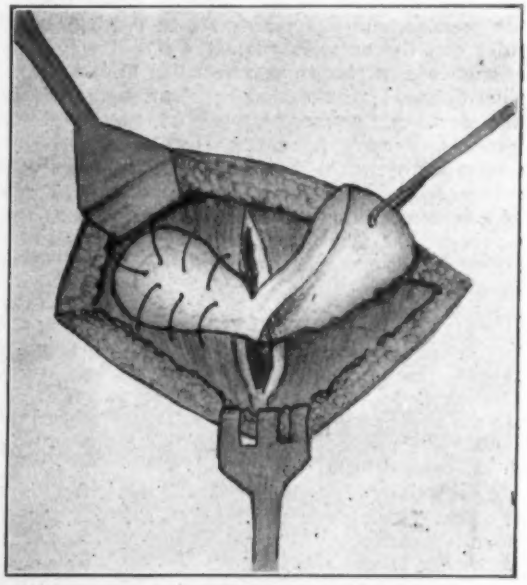


Fig. II.—Uterus split in median line. Each half spread out on rectus muscle and sutred in position. (After Murphy.)

junction (Fig. II). The aponeurosis and skin are closed in the usual manner.

Comment: We have done this operation a number of times and always with satisfactory results. There is no operation which gives such a satisfactory support and is so certain in its results.

(This patient made an uneventful recovery with the bladder symptoms entirely relieved.)

Case II.

History: Patient, female, fifty-nine years old, enters hospital because of *incontinence of urine*. She also suffers from bearing-down pain and a sense of weight in the rectum. She is the mother of four children. The menopause occurred at the age of fifty. One year ago she was operated for the same trouble—an anterior colporrhaphy having been done, but without relief.

She still suffers from intermittent incontinence, which is produced by any increase of intra-abdominal pressure, such as sneezing, laughing, coughing or lifting a heavy weight. There is burning pain in the urethra while urinating and a sense of weight in the rectum.

Examination: There is general sagging of the pelvic floor with marked cystocele and relaxed vaginal outlet. The uterus is atrophied and prolapsed.

Operation: In old women with marked cystocele and atrophied uterus there is no use doing an anterior colporrhaphy—it will not permanently cure. As in this case, it may for a time relieve, but the cystocele is certain to return.

We prefer the *interposition operation*, in which the bladder is dissected from the anterior uterine wall and the normal position of bladder and uterus reversed—the uterus being brought in front and the bladder behind. When this operation is completed it is impossible for the cystocele to return. A vertical incision is made in the median line of the anterior vaginal wall from a point just below the meatus down to the cervix. This incision includes only the vaginal wall and care is exercised not to wound the underlying bladder. These vaginal flaps are dissected from the bladder and the bladder freed from its anterior attachment. The bladder is next separated from its uterine attachment, and when the bladder is thus isolated the transposition takes place by pushing the bladder over the uterus to a posterior position, and interposing the uterus between the bladder and the anterior vaginal wall. The uterus is now anchored in place and covered in by suturing the vaginal flaps. Thus the bladder is carried on the back of the uterus and neither cystocele nor uterine prolapse is possible. The perineum is always relaxed and a perineorrhaphy should invariably be done. This operation in our hands is by all odds the operation of choice in old women with cystocele and atrophied uterus.

(This patient made an excellent recovery, and the incontinence was completely relieved.)

Case III.

History: Patient, female, twenty-nine years old, enters hospital because of *incontinence of urine* and backache. Her trouble began nine years ago after an instrumental delivery, when she began to suffer from bachache and bearing-down pains. Later incontinence of urine was noticed after lifting, straining or coughing. Menstrual history is normal.

Examination: There is general relaxation of the pelvic floor, lacerated perineum, moderate cystocele and retroverted uterus.

Operation: First, we repair the perineum in the usual manner by reconstructing the vaginal tube and supporting it by a firm perineal body. Second, the abdomen is opened by a median abdominal incision, the uterus brought forward and anchored in position by shortening the round ligaments after the method of "Webster-Baldy." This operation holds the uterus in its normal position and at once corrects the sagging bladder caused by the displaced uterus.

(This patient made an excellent recovery and was relieved of her incontinence.)

Remarks: Here is a group of cases all presenting the same symptom for which relief was sought, and all relieved by a mechanical readjustment of a displaced uterus.

It must be understood that the incontinence of urine here presented is not due to a paralyzed sphincter; it has no connection whatever with a visceral lesion; nor is there overdistension with constant dribbling from overflow. This incontinence of urine is of an intermittent character. It is due to a sagging bladder which has been pulled from its normal elevation by the backward and downward displacement of the uterus to which it is attached. Hence, no direct treatment of the bladder is of any avail; only such mechanical treatment of the uterus as will restore the normal elevation of the bladder can result in a cure.

It must be remembered that *the sagging bladder is never completely emptied*, it always contains more or less urine, and this half-filled bladder whenever subjected to sudden increased intra-abdominal pressure will invariably overcome the usual sphincteric control and intermittent incontinence is the result. These patients not only suffer from incontinence, but they have frequency of urination and are liable to develop cystitis.

Now it will be observed that not all patients with uterine displacements have intermittent incontinence, only a certain proportion. What is the explanation of this variation in symptoms? We believe that this variation is rationally explained by an anatomical variation which we have observed and correlated in a sufficient number of cases to confirm it is an etiological factor.

The Anatomic Variation. We have observed that there is a wide variation in the manner and degree in which the bladder is connected with the anterior uterine wall. The specimens vary from an extensive and intimate connection of bladder and uterus to an almost negligible association. In some the bladder is implanted half-way up the anterior wall, in others it just touches the cervicocorporal junction. Now it must be evident that the effect of displacements of the uterus on the bladder will differ just in proportion as the anatomic relation between the bladder and uterus differs. Again, we observe that in all of our cases of intermittent incontinence there has been an extensive and intimate connection between bladder and uterus, so that the position of the bladder was profoundly affected by the position of the uterus, and in the backward and downward displacements the bladder was so dislocated that it could no longer empty itself nor was it protected from direct intra-abdominal pressure. Thus we have an anatomic basis for this symptom of intermittent incontinence, and its recognition is essential in selecting rational methods of treatment.

394 Clinton Ave.

There is sometimes as much damage done to the individual and his friends by moroseness at meals as by ptomaines, although not always so evident.

MATTHEW WOODS.

War is sad enough, says a writer, but the saddest thing is to know that even now, in the twentieth century after Christ, man still relies upon brute force to further his ambitions.

REPORT OF A CASE OF LEPRA.

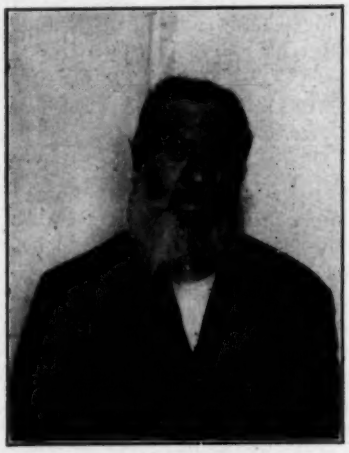
EDWARD H. MARSH, M. D.,

ASSISTANT PHYSICIAN, DEPARTMENT OF DERMATOLOGY, CORNELL UNIVERSITY MEDICAL COLLEGE DISPENSARY; ASSOCIATE DERMATOLOGIST, JEWISH HOSPITAL OF BROOKLYN; ATTENDING DERMATOLOGIST, DISPENSARY OF JEWISH HOSPITAL; ATTENDING DERMATOLOGIST, HARBOR HOSPITAL.

Brooklyn.

The patient was fifty-nine years of age; a native of Southern Russia; by occupation a rag picker. He said that the disease started on his cheeks fifteen years previously, while he was still in Europe. He had emigrated eight years after the onset of the disease. Three months before he presented himself the involvement of the eyebrows became apparent.

On examination, there was an eruption involving the skin over the eyebrows, the cheeks, and the chin, the last being concealed by the beard. The affected areas were dark red in color. There was a marked increase



in the bulk of the skin, but the skin remained freely movable upon the underlying structures. The eruption consisted of small nodes and larger lobulated masses; one node over the right eye showed beginning ulceration. On the cheeks the infiltrated patches were irregularly circular in outline and one inch in diameter. The ulnar nerves were enormously thickened. Further examination was negative, except for a few discrete scars scattered over the trunk, of which no history could be obtained.

The most interesting fact of the case is the patient's statement, that the disease was present when he came to this country.

448 Ninth Street.

Williams's Sign in Early Pulmonary Tuberculosis.

Walsham and Overend discuss the nature and causation of Williams' sign in early pulmonary tuberculosis. Williams' sign consists in a diminution in the extent of the inspiratory depression of the diaphragm on the affected side. The authors state that there are cases of undoubted early phthisis which do not exhibit a trace of Williams' sign. It is possible to discriminate three groups of movements: In the first the afferent nerves, those of the pleura in particular, escape, and the diaphragmatic movements are normal; in the second the contractions are jerky and erratic, and perhaps not much curtailed. This may be due to simple afferent inhibition, accompanied by a spasmodic, incomplete and irregular reciprocal reflex; in the third the latter is well established, and the activity of the recti and obliqui is easily discernible. The issue is then a reduction in the duration and amplitude of the inspiratory wave with a definite measure of protection and rest for diseased areas of the lung.—(*Arch. of Radiology and Electrotherapy*, by *Brit. Med. Jour.*)

The Diagnostic Laboratory

Conducted by CHESTER T. STONE, M. D.,
Brooklyn, N. Y.

Microscopic Examination of the Urine.

(*Continued from June.*)

Organized Urinary Sediments.

During the course of the urinary tubule its epithelial lining undergoes many changes. In the convoluted portions the epithelia usually are low, thick and conical shaped, with granular protoplasm; in the descending arm of Henle's loop, clear and flattened; in the ascending arm, like those of the convoluted portion, but usually not so high; in the intercalary portion and the collecting tubule, usually cylindrical. The nucleus of the cell is distinctly oval and shows a nucleolus. The epithelia of the tubules are distinguished from the superficial epithelia of the true urinary passages (renal calices, pelvis and ureters) by their more polyhedral form and smaller size. The epithelium of the renal calices, like that of the bladder, forms a layer composed of flattened cylindrical cells. Many transitional forms occur, however. It must be especially emphasized that the epithelia of the conducting urinary passage and of the bladder present exactly similar appearances. Since epithelia from the urethra and vagina are also mixed with the urine, it must further be mentioned that the epithelium of the male urethra in the pars prostatica is like that of the bladder. Further on, however, it is distinctly cylindrical, and only after the fossa navicularis is reached does it become decidedly flattened (squamous). The female urethra may contain squamous or cylindrical epithelia.

The glandular cells of the prostate are of a low cylindrical type, while the excretory ducts of the prostate are provided with transitional epithelia. The epithelia of the ejaculatory duct and that of the tubules of Cowper's gland are cylindrical.

The vagina is covered with lamellated squamous epithelia.

In normal urine a slight cloud forms on standing. This consists of a few mucous shreds, occasional leucocytes and epthelia derived from the lower portions of the urinary tract, usually the bladder.

Red Blood Corpuscles. These appear in the urine after every hemorrhage occurring upon the mucous membrane of the urinary apparatus. In fresh acid urine they preserve their normal size, form and color. Various alterations, due partly to inhibition, partly to shrinkage and extraction of hemoglobin, begin only after some time, as the result of the action of urinary salts and water. The cells then appear enlarged or small and crenated, or, finally, as delicate pale rings (shadows), which may be easily overlooked. Rouleau formation is never observed. Not infrequently, however, they adhere to urinary casts, or they form casts without demonstrable cement substance between the densely massed cells.

Microscopic detection of red blood corpuscles decides the open question whether a hematuria or hemoglobinuria exists. If unaltered red blood corpuscles are found in the sometimes pale red, sometimes dark brownish-red urine, then hematuria exists; if such are absent from a urine in which blood coloring matter has unquestionably been determined by other methods, then hemoglobinuria is present.

As to the location of the hemorrhage, aside from clinical symptoms, other morphological elements must de-

cide. The coincident presence of casts and renal epithelia, especially blood casts, speaks in favor of renal hemorrhage. In vesical hemorrhage the above mentioned elements are not found, but numerus squamous epithelia are present. Numerous fragmented red blood corpuscles, which, perhaps, are deserving of diagnostic attention, occasionally are observed in renal hemorrhage. In addition, the above named microscopic differences are to be considered.

Leucocytes. These are found normally in small numbers in almost every urine. Their abundant occurrence is pathological, but they often are observed in the most varied disturbances. In addition to inflammatory pathological conditions of the external and internal genitals and all catarrhal states of the bladder and ureters, they usually are present also in genuine renal diseases. The cells and nuclei present the ordinary size and form, and in dry preparations usually show neutrophilic granulation. Very frequently they are seen adhering to renal casts. In just these instances they may readily be mistaken for the epithelia of the renal tubules. In addition to the marks of distinction immediately to be mentioned, it should be noted especially that the leucocytes are round and usually characterized by a polymorphous nucleus. Sometimes numerous small mononuclear cells (lymphocytes) also are seen.

In the presence of an abundance of polymorphonuclear leucocytes the urine assumes a purulent character, pyuria. In such cases the urine presents, according to its reaction, certain differences recognizable even by the naked eye. If the urine is acid (coli-pyelitis, coli-cystitis, tuberculosis), the purulent sediment appears granular; if it has become alkaline as a result of ammoniacal decomposition, a peculiar mucoid transformation of nucleo-proteids present in the leucocytes occurs, which converts the sediment into a ropy, tenacious mass.

Sometimes the leucocytes are so altered that they cannot be recognized as such.

In such cases the sediment is readily recognized as purulent by its reaction to guaiac tincture. The pus cells contain an oxidation ferment which is set free on their dissolution and is transformed into guaiac blue by the guaiaratic acid present in the guaiac tincture. Some distilled water is added to the sediment and this treated with guaiac tincture. Blue coloration shows pus.

In rare cases of sepsis with a high degree of leucocytosis, there is a marked excretion of leucocytes with the urine without affection of the kidneys or urinary passages.

While in most instances the excreted leucocytes are polymorphonuclear and neutrophilic, there sometimes occurs in chronic nephritis an excretion of mononuclear cells similar to lymphocytes, more rarely an excretion of eosinophilic leucocytes (tumors, echinococcus).

Epithelia. Isolated squamous epithelia not infrequently are found in normal urine, especially in women. Numerous epithelia of this type always indicate some pathological process. They are found in all acute and chronic catarrhal states of the urethra and bladder. They are large, often polygonal or rounded at the corners, usually flattened, occasionally somewhat swollen cells with a large and generally sharply defined, faintly granular nucleus.

Marked squamous epithelial desquamation often occurs as the only urinary sediment in patients with orthostatic albuminuria.

Club-shaped, monocaudate or polycaudate nucleated epithelia were formerly wrongly interpreted as characteristic renal pelvic epithelia. Exactly the same caudate forms may come from the ureters as well as from the bladder itself. Swollen cylindrical epithelial cells with one or two prolongations may be derived also from the excretory ducts of the prostate, and are not rarely found in the mucous shreds so frequently discharged from this locality.

Determination of epithelia from the renal tubules is much more certain. The inexperienced observer frequently confuses them with colorless blood corpuscles (leucocytes) from which sometimes they cannot be distinguished. As a rule, however, they are distinctly characterized by their polygonal form and single, large, round or somewhat oval nucleus that they can be diagnosticated with certainty. Their occurrence is of great semeiotic significance, for according to the quantity of the excreted elements, they always certainly indicate more or less intense epithelial desquamation. Finally, the renal epithelia occur singly or in small and large groups in severe (especially acute) nephritis in the form of epithelial tubes. These are cylindrical formations composed of densely packed epithelia superimposed like shingles or arranged in mosaic form without distinct cement substance (epithelial casts).

The epithelia often are intact, but not infrequently they are albumin clouded, or transformed into genuine, more or less large fat granule cells. These often present, in addition to numerous minute fat globules, a quite distinct nucleus; not infrequently, however, the cell is so densely filled with small and large fat droplets that the nucleus is wholly obscured. Such a cell not rarely obtains a peculiar dark appearance as a result of the many intensely refractive fat globules heaped upon each other.—(*Brook's Clinical Mic.*, 1916.)

An Easy and Rapid Method of Doing Widal's.

Alfred C. Coles says the following is a rapid and simple method of determining, or at least of strongly suspecting, the presence or absence of typhoid in a non-inoculated person. It possesses the advantage of requiring very little blood, for with a few films such as are used for ordinary microscopic examination, we can (especially if typhoid is suggested by an absence of leucocytosis) perform the agglutinating test with one or two of these films.

1. With a color grease glass writing pencil, or a piece of wax, draw a line across the middle of two slides at right angles to their long axes.
2. Spread a film of the blood to be examined on one-half of each slide, and, when dry, spread a film of one's own blood, or that of a person who has not had typhoid or who has not been protectively inoculated against it, as a control, on the other half of each slide. The film may be as thin as that ordinarily used for stained films, or a little thicker. Dry.
3. By means of a platinum loop or pipette place a small drop of an emulsion of killed typhoid bacilli on the center of each half of both slides, and with the platinum loop, or with a needle, rub the drop well over the film of blood, taking care not to pass from one-half of the film to the other without sterilizing the needle.
4. On one slide carefully place a cover-glass on each half, taking care that the two cover-glasses are well separated in the middle by the mark of the grease pencil.
5. Place the other slide on a piece of wet blotting paper and cover with a Petri dish to prevent evaporation for a period of fifteen to twenty minutes. At the end of that time dry carefully over the flame, and then stain.

Examine both halves of the first slide under a moderately low power. At the end of fifteen minutes (often much sooner) distinct clamps of agglutinated bacilli will be seen, provided the case be one of typhoid or the blood of one who has been prophylactively inoculated with a typhoid vaccine, whilst on the other half, the control, the bacilli shows no signs of clumping. The film, stained with Leishman or Giensa's stain, will show on one-half

patches of agglutinated bacilli, whilst on the control half the typhoid bacilli are more or less uniformly spread over the film. The red cells are practically invisible, but the leucocytes are clearly defined, and it is quite easy, provided the film has been thin, to determine the presence or absence of leucocytosis, and to make, is necessary, a differential count of the various forms of white cells present.

The emulsion Cole uses is made from a young agar culture of typhoid bacilli in saline solution, killed by the addition of 1 per cent. formalin. Prophylactic typhoid vaccines do not give as clear results as emulsions from agar cultures, and the bacilli do not stain readily. Should the above give a positive result, a quantitative test may subsequently be made of the serum of the blood by Professor Dreyer's sedimentation method. Provided with an emulsion of killed paratyphoid A and paratyphoid B bacilli, the blood film may be tested against infection of these organisms in precisely the same way.—(*Brit. Med. Jour.*, May 13.)

Antiformin in Examination of Tissues and Organs.

Carlo Martelli says a fine emulsion of the tissue for examination should first be made by cutting it into very thin pieces with a razor or microtome. To this emulsion should be added twenty parts of a solution of antiformin of from 10% to 30% strength, and the whole incubated from one to twenty-four hours. After incubation the fluid should be centrifugated, three times with normal salt solution. The entire residue from a whole lmyph node can thus be secured on cover glasses and when suitably stained can be examined for tubercle bacilli. Not only are tubercle bacilli resistant to antiformin but also the Much granules, which fact further links them with the bacilli. A series of tissues examined by this technic gave surprisingly good results for tubercle bacilli, these even being found in one case in which guinea pig inoculation proved negative.

Diagnostic Value of Gonococcus Vaccine.

Asch and Adler state that in patients who have had an attack of urethritis, treated or untreated, it is of the greatest importance to determine if the gonococcus is still present in the secretions. The author's practice is to inject from 50 to 100 millions killed gonococci intramuscularly (gluteal region) in the patients when they are considered clinically cured and have this injection act as a provocative of the residual gonococci which may have previously failed detection by the microscope. Two or three days later the secretions from the urethra and prostate are examined. Frequently the gonococci appear usually as degenerated types, large, swollen and spherical. The vaccine is of special value in chronic urethritis in which there are secondary bacterial invaders principally suspicious diplococci.—(*Münch med. Woch.*, Jan. 18, 1916.)

Cholesterinized Antigens in Nonsyphilitic Serum.

Nonspecific reactions were obtained by McClure and Lott with antigens representing additions of 0.0125, 0.0248, 0.0496, 0.0502 and 0.0996 gm. of cholesterin to 100 c.c. of the alcoholic extra of syphilitic livers; also, with an addition of 0.101 gm. of cholesterin to 100 c.c. of the alcoholic extract of guinea pigs' hearts. The conclusion is drawn that cholesterin additions in the amounts above employed render the alcoholic extract more sensitive but somewhat less specific, and therefore of questionable value in the diagnosis of syphilis.—(*Am. Jour. Med. Sci.*, May 19.)

Testing Donors for Transfusion of Blood.

Minot places 3 to 4 drops of a 1.5% citrate solution in 0.9% salt solution in a short (2 cm.) test tube, diameter about 1 cm.; collect in this tube 9 drops of blood from the recipient and one from the donor, in another tube collect 9 drops from the donor and one from the patient. The drops are collected from a prick in the ear, trying to allow the blood to fall directly into the citrate, but it makes no difference even if the blood runs down the side of the glass. The drops need not be exactly of the same size, and the amount of blood does not need to be accurate, but approximate. After the mixtures have been made by shaking, and have stood for about fifteen minutes, take out a drop and examine it microscopically for agglutination.—(*Boston Med. & Surg. Jour.*, May 11, 1916.)

Diagnosis of Malaria.

Snyder in the April *California State Journal of Medicine* says that the presence of urobilin in the urine is not specific for malaria, but in his series of 120 cases 87 gave positive results with the following simple technique. Add equal parts (⅔ c.c.) of a saturated solution of zinc acetate in absolute alcohol to fresh urine. Shake, add 2 to 3 drops of a special Lugol's solution made as follows:

Iodine	1
K. I.	2
Water	50

Shake and filter. A fluorescence in the filtrate indicates a positive reaction. His conclusions are: "The test for urobilin is simple and inexpensive. It can be done by inexperienced laboratory workers. It is not *specific* for malaria. It is not constant in early stages of acute malaria. It was present in 73% of cases tested after the disease had existed six days. It is of particular value in subacute and quiescent malaria.

Toning Wright's Stain.

Lake says: "All laboratory workers know that Wright's stain does not keep well, so that old preparations frequently fail. When smears were stained too blue (red cells lilac or violet instead of red) a very small drop of acetic or hydrochloric acid was added to 100 c.c. of the stain. When stained too red (leucocytes, especially lymphocytes, lilac or pinkish) a very small drop of normal sodium hydrate solution was added to 100 c.c. of stain. By adding very minute quantities of acid or alkali with a glass rod, and staining experimental slides after each such addition, the exact tone desired may be produced in a short time."—(*Med. Rec.*, March 4, 1916.)

Uranalysis.

Dr. C. D. Gray (*Med. Rec.*, May 6, 1916) gives a urinary test for syphilis which requires a few test tubes, one of which is graduated, in cubic centimeters, and two stock solutions. A specimen of urine fresh, acid, gravity above 1.016, sugar free is used. The reaction depends upon inhibition of the decolorization of iodine.

Solution 1, dissolve 1 gram resublimed iodin in chloroform or carbon tetra-chloride. Solution 2, phosphoric acid 10 per cent. Take 6 c.c. urine fresh, and add 1 c.c. Solution 1 and shake thoroughly for two or three minutes; set aside till the chloroform settles either pearly white (negative) or pink or deep purple (a suspected syphilitic reaction). Add 1 c.c. solution 2 and shape; clearing of the chloroform indicates a negative. Sugar, "nervous polyuria," beer cause a positive reaction. No other exceptions are noted.

The test was tried on a series of two hundred cases.

If this test proves reliable, a method easily within reach of the general practitioner is at hand.

Errata June Issue.

"Corpuscle suspension," column 1, page 194, paragraph 2, should be in black faced type.

"The patient's serum," column 1, page 194, should start paragraph 3 and be in black faced type.

"Incubate ½ hr. 38° C." should be inserted between complement column and corpuscles 5%, column 1, page 194, tables "amboceptor titration," "amboceptor paper titration" and "antigen titration."

Under "Wassermann readings," column 2, page 194, paragraph 7, columns 7 and 8 should be in alignment.

Ending paragraphs 2 and 3, column 1, page 195, should read "Brook's Clinical Mic. 1916."

Page 195, paragraph 1, column 2, line 2, after word "spontaneously" insert comma.

Page 195, column 1, paragraph 4, should have heading "Sepsis" in carbon bold, and paragraph 5, the heading "Gastric" in the same type.

62 Pierrepont Street.

The Nauheim Method.

Dr. Simon Baruch, of New York, read a paper on "The Nauheim Method," He said that when, three years ago, he opened the propaganda for the Saratoga baths he little thought there would be today facilities for hundreds of CO_2 baths in Saratoga, for at that time the only CO_2 bath there was one tub with city water, supplied with gas from a cylinder.

The Nauheim physicians have evolved a specific method of bathing, the success of which has been established during the most enlightened period of medicine.

1. The Nauheim water contains a supersaturation of CO_2 and certain salines, of which sodium and calcium chloride exist in decided quantities.

2. The mineral springs of Saratoga furnish the most important constituent, viz.: carbonic acid gas, but lack the strong salines.

Unfortunately the Nauheim method of bathing is very rarely administered in this country correctly.

The Nauheim bath consists chiefly of CO_2 produced by acids and bicarbonate of soda, the salines being either omitted or substituted by a few pounds of salt, natural brine or sea water, or as in one large institution, by sodium, chloride and bicarbonate of soda. In some resorts the CO_2 is furnished from a cylinder of gas. There is a lack of precision in giving this bath, which can only be obviated by understanding the physiological action of the CO_2 and salines contained in the Nauheim waters. The principles of hydrotherapy must be applied judiciously to obtain a vascular training, to raise the functional efficiency of the heart. In Nauheim the highest grades of circulatory insufficiency, with dropsy, etc., are declined.

The rationale of the Nauheim bath may be divided into that of the action of carbon dioxide and of the salines. Carbon dioxide produces a sensation of prickling and warmth. The skin is covered with gas bubbles, which protects it more or less against temperature impressions.

1. A cutaneous hyperaemia is produced, not through reflex action as after cold procedures, but due to a specific mechanical chemical irritation by the CO_2 gas. This is proved by the hyperaemia being confined in submerged parts.

2. The cutaneous sensibility is heightened, intensifying temperature sensation, whether below or above the point of indifference.

Dr. Baruch uses the artificial CO_2 both in typhoid fever, when the Brand bath is refused, or contra-indicated, with valuable results. He insists that CO_2 is absorbed through the skin and produced a systemic effect, enhancing respiratory activity, which unloads the right heart and prolongs the diastole. That the absorbed CO_2 also stimulates the unstriated coats of the cutaneous arteries and the heart muscle itself is proved by the fact that animals killed with CO_2 die with the heart in systole. These combined effects prevent those stases which are usually lethal in most cardiac diseases.

The difference of opinion in regard to the effect upon the blood pressure and pulse volume and tension, Dr. Baruch explained by the difference between the natural and artificial CO_2 bath, used by the respective observers. The natural water contains more dissolved CO_2 and the bubbles are finer. The artificial contains more free gas, which escapes easily. Experiment has shown that in the plain CO_2 water, like that of Hathorn No. 1, Saratoga, supersaturation ranges from 33 to 35 per cent., while the artificial preparations produce only about 5 to 7 per cent. Another great difference must arise from the size of the tub, which ranges from 45 to 75 gallons, while the chemicals for the CO_2 preparation are always the same. The CO_2 content of the waters at Saratoga, Nauheim, Marienbad, Kissingen and Franzensbad is constant.

Dr. Baruch finds that the temperatures used here for Nauheim baths are much higher than those at Nauheim. In one large institution the first series was given at a temperature of 98° F., which must damage a defective heart. He has shown long ago that no vaso-motor action occurs after the Nauheim bath unless its temperature be reduced below the point of indifference, which is about 94° F. for CO_2 water. Ottfried Miller and his school have confirmed his findings.

Rarely is a lower temperature than 86° F. prescribed by Croedel and others in Nauheim and the highest is 95° F. The former produces some reflex vaso-motor effect, according to Baruch's hydrotherapeutic law, viz.: the degree of difference between the water and skin temperature governs the intensity of peripheral excitation and therefore of the vaso-motor action. A carbonic acid bath of 94° F. would be indifferent to the skin, while a bath of two to seven degrees lower, which is not uncommon in Nauheim, would produce thermic excitation, resulting in vaso-motor effect.

There is no doubt of the superiority of the natural water over the artificially prepared in cardiac diseases, but close attention to detail may make the artificial a good substitute for home use. The Saratoga waters contain from 33 to 35 per cent. supersaturation, while the artificial baths contain from 5 to 7 per cent.

Dr. Baruch showed the constringent effect of CO_2 bath upon the cutaneous muscular structures by a lantern slide of the scrotum. He claimed that this constriction adds to the resistance at the periphery, produced by the contraction of the peripheral arteries in absorbed CO_2.

The combination of the resistance at the periphery with the direct stimulation of the heart muscle by CO_2 drive the blood with more energy to all the outlying districts, giving the heart a mild training, which produces salutary conditions in the entire vascular system.

The action of the salines rests upon a scientific rationale. They are not absorbed, but that they assist in the penetration of CO_2 gas through the skin has been proven by actual demonstration in Von Mehring's Clinic, and is not denied by any authority.

Dr. Baruch did not lay much stress upon the saline constituent until he discussed the subject with four Nauheim physicians, whose clinical observations have since been proved correct. For this reason he had advised the authorities at Saratoga to add a definite quantity, 12 pounds of sodium and 1 pound of calcium chloride, which is the average of the three Sprudels used in Nauheim, to render the Saratoga CO_2 waters equivalent to that of the Nauheim waters. Physicians prescribing Nauheim baths should assure themselves that this has been done. (Other mineral constituents are infinitesimal and practically the same in both waters.)

By this arrangement the exact formula of the Nauheim waters would be obtained by physicians and could be modified definitely as is done at Nauheim, The physicians at the latter place begin with two or more therral baths, which contain the salines, with a minimum of CO_2. But Groedel has in his latest work substituted for this complicated formula a simple dilution of 50 per cent. with "sweet water." It would be a simple matter to imitate this procedure in the Nauheim method, the artificial bath; also by the directions accompanying the artificial Nauheim bath are unreliable, especially with regard to temperatures above 94° F. If one desires to begin with the Theimalbad and full salines it is necessary to dissolve the saline in 60 gallons water and add one-fourth or one-half of the acid alkali to produce CO_2. Other baths demand other preparations.

Upon his rationale of the action of these baths, it is not difficult to devise a scheme for a mild training of the heart, from his observations in Nauheim, for the artificial or the natural CO_2 bath.

All cases should be advised to rest in a recumbent posture for a few days after the journey. In positive insufficiency of in circulation, without great dyspnoea, in the recumbent posture. The first series of baths should be with Hathorn No. 1 and added salines, diluted with 70 per cent. plain water, at a temperature of 93° F. duration 6 to 8 minutes, and repeated every other day. This should be followed by a rest of one or two hours in bed. Patient should be conveyed in wheel chair or other easily running vehicle to his lodgings. After these baths the duration may be increased to 10 minutes and dilution diminished from time to time. If dyspnoea and other manifestations are relieved, temperature of each bath may be gradually reduced as far as 91° F. and the full salines and CO_2 given. Number and frequency of baths must be ordered in accordance with the effect of the series, ascertained by reporting of the nurse, or, better still, by the physician himself. *The prevailing mode of ordering a series of 18 baths is unscientific and unjust to the patient.*

If the cardiac insufficiency is more recent or compensation appears to be initiated the full strength of the salines and CO_2 may be administered for three baths at 93° F. and gradually

reduced in temperature, duration increased up to 12 minutes, omitting the third day. The strongest bath is indicated in uncomplicated mitral insufficiency.

In the absence of cardiac muscular degeneration, the temperature of each bath may be reduced gradually as far as 86° F., according to its effect upon the pulse and general manifestations.

In aortic or mitral stenosis and in any cases showing much fibrillation bath temperature should never go below 90° F. If palpitation or slight dyspnoea occur only on decided, prolonged exertion or during stair climbing, one may begin at once with the CO_2 and saline bath 50 per cent. and gradually proceeding to the strongest bath at 95° F., duration 10 minutes, but not exceeding 15 minutes. Only well-ascertained tolerance after each bath warrants lower temperature, which always demands shorter duration.

In so-called fatty or weak heart with feeble compressible pulse at 80 or over, or increased by ordinary exertion, the bath should be gradually increased from the mildest to the strongest. Temperature may go down as low as 85 by degrees.

In arterio sclerosis therapeutic indications are conditioned upon the presence or absence of the high pulse tension and increased blood pressure. The physician should be guided by effect of each bath. A full bath of Hathorn No. 1 at 93° to 95° F. with saline addition is ideal in such cases, duration being gradually lengthened up to 15 minutes under careful supervision and watching the effect.

In true angina pectoris, Groedel advises refraining from CO_2 baths if nitrite of amyl does not relieve the paroxysm. In false angina pectoris the baths of Hathorn No. 1, Lincoln and Empire Springs, without salines, are useful.

Neurasthenics suffering from cardiac disturbances are benefited by any CO_2 bath without salines. Purely anemic patients will be favorably influenced by pure CO_2 baths without salines, beginning with 90° F. at 5 minutes and increasing to 8 minutes, slowly, going lower, provided an agreeable reaction follows. In Saratoga Baruch recommends the Kayoderosseros bath for cardiac cases, because nearer the lodgings. For functional diseases the Lincoln or Empire Springs are more adapted because open-air exercise is required after the bath.

The most favorable time for the bath is in the morning, about an hour after breakfast. While in the tub patient should be quiet and avoid inhalation of CO_2 gas, which is more apt to occur in the artificial than in the natural water. He should be dried gently, without friction, except in the first two baths, with warm linen sheets or towels, and rest in bed in a well-ventilated room for one or two hours after each bath. A fairly strong patient, whose pulse is not easily excited, may walk slowly to his lodgings, but the majority of cases are advised to ride to their residence. Severe cases should not leave the bath house without resting an hour. The period of rest is the best time for the physician's visit.

Dr. Baruch omitted for want of time details of the valuable auxiliary methodical exercises which are a part of the Nauheim method. They should be as systematically applied as the baths.

He advises that the directions accompanying the artificial Nauheim bath packages regarding temperature and duration should not be followed, because they vary in temperature and other conditions and that the physician must use his judgment.

The object of all treatments is to mildly raise the responsive capacity of the heart muscle by withdrawing obstacles to its free action at the periphery and enhancing the ventricular energy by slow degrees; in other words, to train the heart muscles as we train the muscles of the arm, with dumb bells, by gradual increase of labor. This is a coarse analogy; no harm can be done to the healthy, voluntary muscles by over-exercise, whereas the cardiac muscle acts involuntarily and is related intimately to the complicated machinery of the entire body to which it furnishes pabulum for the organic activities. Moreover, we have to deal with a pathologic condition of a delicate organ demanding cautious adjustment.

In Nauheim they find a series of 18 baths and not exceeding 24 of average usefulness. From this brief data it may be inferred that the routine prescription of a series of 18 or less number of baths, which many American physicians are in the habit of prescribing, is not to be commended. Positive individualization, which involves examination after every two or three baths, is the essence of "the Nauheim method." It is necessary in every case, not alone on account of occasional idiosyncracies that may bring about serious or fatal results, but owing to the uncertainties in the responsive capacity of patients suffering from cardiac diseases, no two of whom are alike. One of Baruch's patients objected to a doctor in Nauheim to whom he had sent him because he seemed to pursue him, when he did not appear at his office as directed. The patient regarded his motive as mercenary, but the fact was, that this conscientious physician was intent upon protecting him against possible deleterious consequences from negligence of his prescriptions. It is safest to see the patient frequently.

The Physician's Library

A Text Book of Pathology. By Alfred Stengel, M. D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M. D., Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Sixth Edition; 1045 pages, 468 illustrations and 15 colored plates. W. B. Saunders Company: Philadelphia and London, 1915.

The work as a whole is good. The chapters on Disturbances of Circulation and on Bacteria are excellent. The chapter dealing with Metabolism is good, but at times somewhat indefinite. The progressive tissue changes are considered in a rather elementary manner; syphilis is given entirely too little space. Special pathology is good. The illustrations are excellent, especially the plates dealing with blood disorders. The chapters dealing with the specialties might well be omitted and left to works dealing solely with those specialties.

The Treatment of Acute Infectious Diseases. By Frank S. Meara, M. D., Professor of Therapeutics in Cornell University. Cloth. 540 pages. New York: The Macmillan Company. 1916.

Much of the value of this book is due to the fact that it states the author's personal views and, be it remembered, his views on therapy are worthy of serious heed. Meara's wide experience as a clinician, diagnostician and therapeutist at Bellevue Hospital has given him an ipse dixit worthy of great respect. The book discusses individual diseases in a thoroughly practical manner as to etiology and every means of treatment and each disease is summarized briefly. Very few books on the subject can compare with this volume for real helpfulness and it is a pleasure to commend it to the serious consideration of practitioners.

Fractures. By John B. Roberts, M. D., and James A. Kelly, M. D., of the Philadelphia Polyclinic. Cloth. 677 pages. Price $6.00. Philadelphia and London: J. B. Lippincott Company. 1916.

"Fractures Up to Date" might well be the title of this book, for it contains everything known of the symptomatology, prognosis and treatment of fractures, together with a wealth of radiogram, photographs and drawings. One cannot imagine any phase of the subject which has been omitted from this carefully prepared volume. The illustrations are most enlightening and add materially to the value of the text. The book is one which has a place in the library of every medical man who reduces fractures.

Surgery in War. By Maj. Alfred J. Hull of the British army. Cloth. 390 pages. Philadelphia: P. Blakiston's Son & Co. 1916.

This war has revolutionized military surgery and this book tells at least some of the story. There has been a great advance in surgical technique, and while Hull does not go into some of the more spectacular details, such as the plastic surgery of the face, he gives us an excellent idea of surgical conditions as they exist in Europe today. The book is interesting as a contribution to one's general knowledge on the effects of war and instructive in showing the new and clever methods army surgeons have adopted to meet the exigencies of the occasion.

Practical Dietetics. By Alida F. Pattee. Cloth. 475 pages. $1.50. Published by the author, Mt. Vernon, N. Y.

The winter edition of this useful book shows that it continues to fill a want. It covers the entire range of dietetics and treats diet in disease in an intelligent manner. Beside the great number of recipes, the book discusses the principles of nutrition and food preparation, and the practical application thereof and the feeding of infants, young children, pregnant women and the aged.

Elementary Bacteriology and Protozoology. For the Use of Nurses. By Herbert Fox, M. D., Director of the William Pepper Laboratory of Clinical Medicine in the University of Pennsylvania. Second Edition. Cloth. 251 pages, with 68 engravings and 5 colored plates. $1.75. Philadelphia and New York: Lea & Febiger. 1916.

Nurses and others who seek elementary information on these subjects will find this book of value. It hardly meets the needs of the physician, but it serves its intended purpose excellently.

Tobacco Habit Easily Conquered. By M. MacLevy. Cloth. 152 pages. New York: Albro Society, Inc. 1916.

The author tells how to conquer the tobacco habit by physical and mental methods and he backs up his arguments with many facts. His wide experience in physical education permits him to write authoritatively.

Therapeutic By-Ways. Condensed and arranged by E. P. Anshutz, M. D., Cloth. 195 pages. $1.00 net. Philadelphia: Boericke & Tafel. 1916.

This is a collection of therapeutic measures not found in ordinary textbooks and will prove of interest to physicians, especially to the followers of Hahnemann.

Blood Pressure in Ocular Work. By Eugene G. Wiseman. Cloth. 267 pages. Rochester, N. Y.: J. P. Smith Printing Company. 1916.

This is intended solely for refractionists. We cannot agree with the author, however, that the sphygmomanometer should be employed by nonmedical men, who cannot possibly understand the underlying physiological principles upon which the use of the instrument is based.

The Mortality From Cancer Throughout the World. By Frederick L. Hoffman, LL.D., Statistician of the Prudential Insurance Co. Cloth. 827 pages. Newark, N. J.: The Prudential Press. 1915.

The author has done a real service to medical sociology by compiling this splendid work. While figures are dry things, the statistics on cancer reveal some highly interesting features and the medical profession will do well to ponder the lessons which this book teaches. An enormous amount of work is represented in its pages, but the author should feel recompensed by the value of his services to the cause of suffering humanity.

The Art of Anesthesia. By P. J. Flagg, M. D. Lecturer in Fordham University. Cloth. 341 pages. $3.50 net. Philadelphia and London: J. B. Lippincott Company. 1916.

This book is of a most practical nature and covers general, local and mixed anesthesia. Under general he considers the various methods of administration and the uses of chloroform in bone oxide alone and with oxygen and oxygen and ether. The chapters on local anesthesia are devoted to regional intravenous injections of novocain and infiltration and conductive anesthesia by novocain, cocain and quinin-urea. Mixed anesthesia includes the spinal stovain method. The author has produced an instructive book which is sure to find favor.

Gynecology and Pelvic Surgery. By Roland E. Skeel, M.D., Associate Professor of Gynecology in Western Reserve University. Cloth. 680 pages. $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1916.

The particular value in this book to the general practitioner lies in the emphasis placed upon diagnosis and treatment. In other ways it is no better than several manuals now on the market, but in these important features it earns a place for itself. All the matter has been carefully prepared and many illustrations add to the book's value.

Society Proceedings

The American Association of Medical Jurisprudence.

The annual meeting of this society was held May 6th at the New Willard Hotel, Washington, D. C. The meeting was called to order by Oscar W. Ehrhorn, Esq., first vice-president of the association, in the absence of the president, Dr. Hickling, on account of illness.

Excuses for absence were received from several members and the resignations of Alfred E. Ommen, Esq., and Harry V. Osborne, Esq., were received with regret. The report of the treasurer was read and placed on file. The reports of the Council, Committee on Admissions, Committee on Program and Committee on Arrangements were read and accepted. The following were elected members of the association: Dr. Graeme M. Hammond, New York; Dr. Horst Oertel, Montreal.

Amendments proposed by Mr. Oscar W. Ehrhorn to the constitution were adopted as follows:

Amend Article 6 of the constitution by changing the period after the word "adoption" to a semicolon and adding thereafter the words, "but they may be considered and voted upon at any regular meeting at which they are offered by unanimous vote of those present and voting, providing a quorum is present," so that the section shall read as follows:

"All proposed changes of the Constitution must be offered in writing at a regular meeting. They are to be considered only at the next annual meeting, when a two-thirds vote of the members present and voting shall be necessary for their adoption; but they may be considered and voted upon at any regular meeting at which they are offered by unanimous vote of those present and voting, provided a quorum is present."

Amendment proposed by Mr. Oscar W. Ehrhorn to the by-laws of the association as follows:

Amend Article 10 of the by-laws relating to amendments by changing the period after the word "meeting" to a semicolon and adding the words, "except that amendments to these by-laws may be made at any regular meeting of the association by unanimous vote of those present and voting, provided a quorum is present," so that the section shall read as follows:

"Amendments to these by-laws may be made on recommendation of the Council by a two-thirds vote of those present and voting at any annual meeting. Notice of such proposed amendments to be sent out with the notice of such annual meeting; except that amendments to these by-laws may be made at any regular meeting of the association by unanimous vote of those present and voting, provided a quorum is present."

Amendment proposed by Mr. Charles P. Blaney:

Article V, Section 3, of the constitution to be amended as follows:

Strike out the words of the first sentence, "Applications for membership should be made in writing at least one month before the annual meeting," and amend the balance of the section so that it shall read as follows:

"All applications for membership must be referred to the Committee on Admissions, which shall present to the association for election at its annual meeting the names of applicants approved by it. Five negative ballots shall reject an applicant."

At the scientific session a report of the Committee on Medical Expert Testimony was read by Oscar W. Ehrhorn, the chairman. The following took part in the discussion of this report: Drs. MacTaggart, Woodward, Jacobi, Bishop, Hough and Lehman, and by Messrs. Shinn and Blaney. The proposed bill embodying the principles set forth in the report was recommended. The report was adopted and the committee ordered it to be continued.

The following papers were then read:

(a) A Prohibition Era—Is It Coming, and Should We Welcome It?

(b) The Dietetics of Efficiency After Forty.

(c) The Present Scope of Medical Jurisprudence.

(d) The Vagaries of Boards of Health.

The following gentlemen took part in the discussion of the papers read: Drs. MacTaggart, Bishop, Wilcox and Woodward, and Messrs. Ehrhorn and Blaney.

The members of the association were luncheon guests of President Hickling at the University Club.

At the afternoon scientific session a trip was made to the Government Hospital for the Insane in Washington, where very interesting addresses were made by the superintendent, Dr. W. A. White and his assistant, Dr. Glick, the addresses being accompanied by exhibition of patients of the hospital.

The following were then elected officers of the association: President, Oscar W. Ehrhorn, Esq., of New York; first vice-president, Philip Coombs Knapp, M.D., of Boston; second vice-president, Mr. Justice Bartow S. Weeks, of New York; secretary, Charles P. Blaney, Esq., of New York; treasurer, John C. West, Esq., of New York.

Member of the Council for the term ending with the annual meeting of 1917, Raphael Tobias, Esq.

Member of the Council for the term ending with the annual meeting of 1920, W. O. Hart, Esq.

Members of Council for the term ending with the annual meeting of 1921, William Creighton Woodward, M.D., and John S. Durand, Esq.

The annual dinner of the association was held at the Occidental Hotel, with President-elect Ehrhorn presiding. Dr. MacTaggart was toastmaster, and addresses were delivered by Drs. Wilcox and Bishop and Messrs. Ehrhorn and Blaney.

The 1916 A. M. A. Meeting.

The annual meeting of the American Medical Association in Detroit June 13-16 was largely attended and very successful.

The following officers were chosen by the House of Delegates for 1917: President, Charles H. Mayo, Rochester, Minn.; First Vice-President, L. F. Barker, Baltimore; Second Vice-President, John F. Leaming, Chicago; Third Vice-President, J. Henry Carstens, Detroit; Fourth Vice-President, George F. Keiper, Lafayette, Ind.; Secretary, Alexander R. Craig, Chicago; Treasurer, William Allen Pusey, Chicago; Chairman of the House of Delegates, Hubert Work, Pueblo, Colo.; Vice-Chairman of the House of Delegates, Dwight H. Murray, Syracuse, N. Y.; Members of the Board of Trustees, A. R. Mitchell, Lincoln, Neb.; E. J. McKnight, Hartford, Conn.; Oscar Dowling, Shreveport, La.; Member of the Judicial Council, H. A. Black, Pueblo, Colo.; Member of the Council on Health and Public Instruction, Frank Billings, Chicago; Member of the Council on Medical Education, William D. Haggard, Nashville, Tenn.; Member of the Council on Scientific Assembly, Dr. J. Shelton Horsley, Richmond, Va. New York City was selected as the place of meeting in 1917.

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In Memoriam.

THE MEDICAL TIMES has lost two of its most valuable contributing editors in the deaths of Dr. Frank D. Gray of Jersey City and Dr. Nathan Jenks of Detroit. They were especially interested in the progress of this journal and had aided it materially by advice and contributions.

Both men had attained positions of prominence in the profession. Dr. Gray was one of the leading surgeons of New Jersey, a former president of the State Medical Society and a member of three hospital staffs. Several of his best contributions to surgical science appeared in the pages of THE MEDICAL TIMES.

Dr. Jenks was one of the best known obstetricians in the Middle West. As a professor in the Detroit College of Medicine and as a practitioner he won lasting fame. He was cut off at the early age of 43. The profession of medicine loses two of its best advocates and the world will be minus the services of two men whose outlook was broad and who did not confine their activities alone to professional work.

THE MEDICAL TIMES sincerely regrets their untimely passing.

Exit the Medical Reserve Corps.

The new army reorganization bill has been signed and the Medical Reserve Corps is legislated out of existence. It will officially expire June 3, 1917. Thus marks the ignominious finish of a corps which once gave promise of splendid usefulness. The active list has been very valuable, having taken over many of the former contract surgeons in the army and the inactive list desired to be of use, but was prevented because its members could not be of material aid to the "porkers" who make up such a considerable proportion of the present Congress. The asininity of these alleged "statesmen" is shown by the fact that nowhere in the bill was any mention made of the "inactive" Reserve Corps, so that the bill as it has passed abolishes *both the active and inactive corps*, thereby legislating out of the regular medical corps nearly one hundred members, including the students now in the Army Medical School. In short, in future, when a young man passes his examination for admission to the Medical Corps, U. S. A., and enters the Medical Reserve Corps (active list) until he is commissioned first lieutenant, Medical Corps, U. S. A., he is automatically at once kicked out. Any stronger proof of the meaning of "preparedness" as interpreted by Mr. Hay is unnecessary. The Medical Reserve Corps (inactive list) and the Surgeon General were both assured by the chairman of the House Committee that "he had no intention of abolishing that corps," yet when the bill passed it provided for the elimination of the M. R. C.

Whether or not the officers in this defunct corps will apply for transfer to the Officers' Reserve Corps, Medical Division, remains to be seen. Some of the most interested men on the inactive list see in the new corps only another ingenious scheme for political patronage and will have no connection with it. Others are awaiting further information.

The belief is general, however, that the framers of the bill are not genuinely in favor of preparedness, except in the kind that keeps them very close to the "pork," and for this reason most of the members of the inactive list of the Medical Reserve Corps will "be from Missouri" before consenting to ask for transfer to the new organization.

Some regular medical officers are opposed to the abolition of the M. R. C. and others believe the new scheme will work out satisfactorily and that well known medical men holding commissions will be given rank commensurate with their professional standing.

Be that as it may, there is general disappointment that the proportion of medical officers allowed by the new bill is only seven to each thousand of the army's enlisted strength. Such a number is entirely inadequate in time of war, as the experience of present day European armies has amply demonstrated, but perchance the fact that a world war is in progress may not have permeated the fastnesses of the Old Dominion, where this bill was made, so the army can congratulate itself that in the event of hostilities there will be even three more surgeons per thousand men than heretofore.

The inscrutable wisdom of Congress is again shown in undeniable fashion in reducing the pay of the enlisted men in the medical corps from $18 to $16 a month. Army medical officers have long suffered from the difficulty of obtaining competent men for such small pay, for men who are good nurses can get from $20 to $35 per week in civil life. Now that the pay has been cut to less than $4 per week, good hospital corps men will be increasingly scarce. But the army medical officers must bear in mind that the money saved in enlisted men's pay will help build a federal building in Texas, or dredge a creek in Virginia. It is to be hoped that an amendment will rectify this glaring error in a bill which has some good points and some equally bad ones.

The Best Basis for Team Work.

It has been pointed out to us that in our editorial in a recent issue on the need of a central body we took but little account of human nature. We assumed that the profession could agree on other than technical matters affecting the profession and on other than those

involved in the differences marking off the schools of practice. A friendly critic thinks that the men holding institutional positions could hardly be expected to agree with the men who hold none on the subject of throwing open the hospitals to all reputable practitioners for the treatment of private patients. He thinks that a central body of the sort proposed could only hold together along strictly limited lines, such as medical legislation. Well, heaven knows that that alone would be sufficient reason for becoming unified. There is probably no greater single menace than fool legislation. Why should not all the societies and schools unite and deal with that subject forcefully. Certainly here is one field in which we could fight shoulder to shoulder.

The President and the Medical Profession.

Doctors have no business to dabble in national politics, but if they were so disposed, they would (if Democrats) regret the tactless attitude of Mr. Wilson toward the recent and former Congress of American Physicians and Surgeons. He ignored *both*. It would have cost him nothing to have made a short address to the representative bodies of medical men, or possibly to have given them a reception or garden party (the latter function being the laughing-stock of the present administration), but he failed to show the slightest interest in the two congresses. Bad manners, provincialism, natural want of tact? Take your choice.

It was a bad political move, for physicians have some influence in their communities, but what's the use? Everybody "knocks" doctors—why not the President of the United States? We can not cenceive of a national medical congress, meeting in the national capital, which was so utterly ignored as the last one. England, France, Germany, any little South American Republic would have given it recognition through the head of the government. Not so with this administration. Cleveland, Roosevelt, Taft—all held receptions in our honor, but *not* Mr. Wilson, though he had the unique privilege of meeting the Congress twice if he had so desired. *Quem deus wilt perdere, prins denentat.*

Submitted in the Spirit of Holmes and Semmelweiss.

We admire much the courage—or ingenuousness—of a doctor of Central Falls, Rhode Island, named Lionel Albert. He has written a piece in the *Boston Medical and Surgical Journal* of May 11, 1916, in which he inquires whether there is not such a thing as too much asepsis in obstetrical practice and in which he declares that he is certainly coming rapidly to such a belief.

Dr. Albert found that in the lying-in hospital where he served, where the greatest precautions were taken, infection of varying grades was common, both in the mothers and children (umbilical), whereas among the out-patients, where the conditions were in every way apparently less favorable, infection was rare. Since leaving the hospital Dr. Albert's practice has been largely among ignorant foreigners, yet he gets uniformly excellent results, despite the bad conditions, which he has been unable to control save as regards care of the hands and instruments.

Dr. Albert has come to the conclusion that his patients must be immune to the effects of their own bacteria. Scrubbing, washing and cleaning would seem to introduce outside bacteria, which take hold and make trouble. The scrubbing process may also make minute lacerations, which enable an outside infection to gain a further foothold.

The doctor is by no means an advocate of no asepsis in obstetrics and always uses the greatest possible care where he can, but his confidence has wavered and he confesses wonderment as to whether asepsis is not really being overdone.

We consider Dr. Albert's communication a most suggestive one. It arouses again certain suspicions which many of us have harbored regarding the hospital environment. We shall content ourselves—lacking the courage—though perhaps not the ingenuousness—of Dr. Albert, with the expression of but a few thoughts on the subject. Hospital infection would seem to depend largely upon the ratio between the number of women cared for and the number of attendants. The factor of cross infection looms large where there are too few attendants. Roughly speaking, the factor aforesaid increases in infective possibilities in proportion to the number of patients handled by a given attendant. Then we must remember that the parturient woman enters a maternity which has been tenanted before her by hundreds of thousands of women representing every type of germ harborer.

Broadly speaking, are not the dangers of infection greater in a maternity ward than in the home? Do not our aseptic precautions merely reduce, without effectually eliminating, such dangers? (Of course, the thought of Dr. Albert is that they may actually increase the dangers.)

Take, as a familiar example of hospital or institution infection, vulvo-vaginitis in little girls. How it crops out even in the face of the most painstaking precautions. In a maternity ward there are myriad possibilities.

Asepsis, probably always faulty in some degree, aside, the home environment, in point of bacteria emanations or transfers from infested bodies, must be vastly better than the hospital ward. And as Dr. Albert suggests, there may be relative immunity to the organisms which have been picked up in the home environment.

Doubtless this may all be easily challengeable heresy. We can only pray to be forgiven on the count of ingenuousness.

The Property Fetish and Medicine.

The Most High is not pleased with the offerings of the wicked: neither is He pacified for sin by the multitude of sacrifices. —*Ecclesiasticus.*

To what extent do the standards of the profession reflect the standards of the people? Undoubtedly to a marked extent. That is just the trouble with the profession, and it is the key to the disesteem into which we have fallen of late years. As it is with the people, says Isaiah, so it is with the priests. The people have set up property as a god to worship. This is our national religion. Art and literature are dying if not dead, and spiritual values are of no interest to anyone. In the midst of such things how could the medical profession fail to be soiled?

Nothing is of any interest that does not relate to this property fetish. Education is becoming a process of fitting the young for material success, and culture for its own sake is a humorous conception. Success means at least ten thousand dollars a year and need mean nothing else.

The four eldest children of our property, industrial and economic interests are organized charity, preparedness, prohibition and health insurance. In organized charity we find palliative treatment of the horrid results of industrial exploitation; in preparedness we find protection of our industrial feudalism and material interests in general; in prohibition we find the safeguard against

the industrial inefficiency brought about by alcoholism; in health insurance and attempted socialization of the medical profession we find the State overridden by and taking its cue from the organized charity gang. The principle at stake may be expressed in the motto: "Thou shalt not pay unto labor its fair share of the profits of industry."

Even the hospital is to-day largely a mere repair shop whose function is to restore the victims of our industrial grind to the treadmill or to the so-called home.

Prohibition represents a determination to put down alcoholism (more often the result than the cause of poverty) by force in the interest, not of the soul and mind of mankind, but of industrial efficiency and wealth. These be thy gods, O Israel!

We would wish that our teachings and preachments about alcohol did not come from laboratories endowed by magnates who are peeved about the industrial inefficiency brought about by alcoholism but who don't give a rap about the spiritual or intellectual or economic interests of their employees.

Do we mean to deny that these laboratory workers are not telling scientific truth about alcohol? No, all we mean to say is that they are not telling the whole truth about alcohol. Has anybody heard of any studies emanating from the sacred marble halls known as laboratories with respect to the anociative value of alcohol in disease? The laboratory workers tell us that alcohol is a narcotic and anesthetic, but they do not advise its extensive use in protecting the brain against harmful stimuli in the presence of certain grave infections. Why have all the honest and unbiased findings of an older generation of physicians gone for naught? No sordid considerations could be traced behind their findings and we believe that their observations were sound.

The standards of the profession do reflect, with a considerable degree of accuracy, the standards of the people. Herein would seem to lie one reason why we cannot have a complete presentation of the pharmacology of alcohol, a most amazing state of affairs and one which the decent man, before reflection, would instinctively challenge. Well, let him think again.

Plattsburg and Preparedness.

The observations made on the physical fitness of the men who served at Plattsburg last year were rather disquieting. Although the Plattsburg contingent was made up of well nourished individuals of apparently good physique, it was unable after a month's training to do a day's marching one-third as long as the normal hike of the regulars.

War devolves essentially upon the working class. Preparation for war on the part of the rich is a passing fad, necessarily resting upon inadequate physical foundations.—Q. E. D.

Personal.

The editor of THE MEDICAL TIMES has been elected Professor of Preventive Medicine and Hygiene in the Long Island College Hospital of Brooklyn, in which institution he has served for several years as an instructor in genito-urinary surgery and latterly also as lecturer in hygiene.

The college, which recently graduated 78 men as doctors of medicine, has added materially to its teaching facilities, and now, with its $2,000,000 plant, including a 500-bed hospital, offers opportunities for medical education which cannot be excelled in New York.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

On Artificial Standards.

Pessimists declare this to be an age of artificial standards. This, of course, is only a half truth and a specious generality. We do make fetishes of degrees and so-called credentials—which usually mean next to nothing. We undoubtedly have some artificial standards. To what extent do they hold sway in medicine?

A standardized practitioner is an awful thought, even if the standards by which he is judged are fairly good in themselves, yet it is to the making of such a holy horror that all forces seem to be working at the present time. We suppose the standardized practitioner must believe in the twilight sleep, bone-plating, Cesarean section, health insurance, the taboo on alcohol, vaccine therapy, medical preparedness, tonsillectomy, and Dr. Meltzer's Medical Brotherhood. Well, we are not among the fortunate obstetricians who now charge fabulous fees for administering the twilight sleep and who never give it to the poor. We can't qualify with respect to this standard. Bone-plating, so far as we have seen the results, actually "gets our goat." We are not standardized here. As regards Cesarean section we confess ourselves sub-standard at once; we think it vastly overdone. For health insurance and incidental socialization of the profession we confess a healthy disgust based upon the conviction that such clumsy and immoral devices represent palliative treatment of the decent wage question; not even sub-standard here. Our ideas regarding the use of alcohol in medicine are on all fours with those of Jacobi, which are more or less heretical today. On vaccine therapy we are very wobbly. On the subject of preparedness we are far from standardization, for reasons which will be found expressed elsewhere in this issue of the MEDICAL TIMES. With respect to tonsillectomy we can qualify fairly well, though well within rules of reason. Dr. Meltzer, in a letter recently sent out inviting physicians to join his brotherhood, remarks that the recipient could hardly find any potent reason for not joining it! Pretty cool, eh? Well, we have several reasons for not joining it. There are no dues. The literature accompanying Dr. Meltzer's letter reads exactly like that of the Wall Street preparedness propaganda. The philosophy outlined is naive, to say the least and say it charitably. From a standardization even of ideals heaven forfend us.

We firmly and respectfully decline to be standardized. We even lack confidence in high educational standards in view of their failure to improve professional tone.

Standardization of the physician with respect to non-medical matters has about the same bearings and significance as in the case of the so-called educated man who is not a physician. Thus we find too many doctors sharing artificially accelerated and orthodox views with respect to many things disbelief in which marks one as not "respectable." It is not alone a question of deadly fear of convention makers and conventionalized mobs, but of sincere acquiescence in what is believed to be moral and reasonable and just. The smug moulders of public opinion in academic, political and "religious" circles influence greatly and deplorably the simple and good among all ranks. The doctor or his lay homologue must not care very much for the plight of the working class. He must not think very deeply about the "dream" of guaranteeing to every child an endurable life and every

opportunity. If sharing unfairly in the distribution of wealth, he must none the less be ready to give his life in the defense of the wealth concentrated in the hands of only 35,000 people; it is a sacred obligation. He must be a stanch retainer of the master class, whether prosperous or poor, and must believe with Mr. Taft that when military service affects every home in the land that then the last glorious pinnacle of democracy is attained. He must believe that a country is worth fighting for which permits wretched conditions consequent upon the mad race for wealth to prevail, and he must even deny that atrocious conditions exist. He must believe that Japan and Germany are more to be feared than our own oppressors, and must prefer, heaven only knows why, the domestic brand of frightfulness. He must be affiliated with all sorts of curious social institutions which confer respectability which we shall not outrage the feelings of the orthodox and standardized by mentioning. He must contract the very diseases that are *à la mode*. He must give due regard to the conception that the wife is a sexual chattel, the exclusive property of the male to whom she is chained by human and "divine" law. If he doesn't poison himself with tobacco he is a freak. If he does poison himself with alcohol he commits the greatest crime of all, not because anyone cares about moral consequences, but because it makes him less efficient as a worker for the acquirers of wealth. And so on *ad infinitum*. The greatest crime in a democracy is to be or to think unlike others.

After this confession we presumably stand convicted of unfitness or worse.

Shall we open our veins or stand against a wall to be shot by the preparedness fanatics? Or shall we continue to be guided by our conscience, our own intellect, our will and our experience, rather than by passing fads and ambitious faddists or worse, and by the makers of evanescent moral standards?

A Prayer for Physicians.

From the pay dispensary; from health insurance; from deadbeats; from the incurable urethritis case; from the neurasthenic who keeps a diary; from the detail man who lectures on the physiology of the stomach; from the birth-control crank and other professional sociologists; from the writers of unneeded textbooks; from drug fiends; from the young married woman who is not strong enough to bear a child; from the laboratory that splits Wassermann fees; from breech cases in primips.; from obese pigs who won't diet as directed; from night-calls; from fool legislation; from long-winded papers; from new kinds of mouth gags and obstetric forceps; from food cranks who tell us how to live for ten days on a dollar and ten cents; from socialistic health boards; from half-baked specialists; from "practical" nurses; from New Thoughtists; from radium fanatics; from over-zealous Freudians; from the preliminary note on a new cancer treatment; from the seekers after false certificates of illness; from standardization "nuts"; from moribund journals, third-rate journals and freak sex journals—good Lord deliver us!

The Hospital Question.

A physician who is not fit to treat his private patients after operation in a hospital, or for purely medical conditions in a hospital, is not fit to treat them anywhere and should have his license revoked or give it up voluntarily. If he is fit why is he not treating them? No good reason can be cited why he should not, if he be really fit. The reasons for the present state of affairs are not creditable to the *class* that has pre-empted all hospital beds and then trained their machine guns on the men who would follow their patients into the sacred precincts. But, hush! we must not speak of a *class*. Most heinous of criminals is he who breathes of class distinctions—the most dangerous man in the community. Of course the hospital crowd is made up of perfectly safe men. If their exclusion of their brethren from the hospitals has worked economic and scientific harm to the excluded, why, somehow or other, we must think of that as all right—nothing dangerous about it. It is very high-class thuggery which can convince its victims that there is justice in bludgeonings.

Hope for Cranks.

In the *British Medical Journal* for May 13, 1916, there is an interesting report by MacPhail, of Edinburgh, on two cases of severe head injuries. In both cases there was occipital traumatism, followed by delirium and mild and frequent laughter. The reporter assumes an emotional center for laughter.

Have we not here a hint for the treatment indicated in certain cases of lack of the humor sense. These unfortunate subjects need to have their laughter centers prodded a bit.

We should begin experiments at once with some of our serious thinkers who are never anything but serious, say the anarchist group, the sex cranks, the flag burners and defacers, and those great bores within the profession who are always reforming something and incidentally vilifying their brethren.

We have been at a loss hitherto in the management of these nuisances, because we had no proper remedy. They should be committed by due legal process to institutions devoted to direct stimulation of the laughter center.

A Query.

For a long time the Health Department has published in its weekly bulletin the names of food merchants who have been detected selling sub-standard provisions. Now that the restaurants and hotels are being classified as good, fair or bad, we wonder whether the names of those found unfit will be published.

Definition of the Urethroscope.

An instrument for observing the lining mucosa of the diseased urethra fail to change for the better despite the most intensive, intelligent and protracted treatment.

Question.—Why is it that general professional tone has lowered greatly of late years, although educational requirements have been increased?

Ans.—We know, but we won't tell.

Neurotic Arthritis.

The characters which distinguish neurotic arthritis from gouty and rheumatic inflammation may be tabulated thus:

1. It is rarely, if ever, accompanied by fever.
2. It comes on after or with paralysis, and affects only partially or entirely paralyzed limbs.
3. The bones are tender on pressure below the point of spinal lesion.
4. The articular swelling is due to a synovial effusion and periarticular exudation, which fixes the patella if the knee be affected.
5. It is accompanied by a doughy œdema of the limbs, and cutaneous and muscular atrophy.
6. The treatment for gout or rheumatism utterly fails to afford relief.
7. If the spinal trouble be not sufficient to produce death, the joints are completely restored to functional activity, the pain and œdema first disappearing, then the paralysis, and last the thickening and stiffness of joints.—(*Practitioner.*)

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

THE DIAGNOSIS OF LATENT TUBERCULAR INFECTION BY MEANS OF THE GAMMA RAY AND CLINICAL THERMOMETER.*

SAMUEL ST. JOHN WRIGHT, M. D.
Akron, Ohio.

We are all agreed upon the importance of accurate diagnosis and its rarity. Too long has the citizen chosen his own time to seek diagnosis. If it is true that the doctor who treats himself has a fool for a patient, it is equally true that the laity is not qualified to even select the proper date for seeking a diagnosis. Too long has latency deceived the very elect. Too long has preventive medicine been hampered by the gulf which is so often fixed between the diagnostician and the unsuspecting victim of latent infection. Let the mysterious roentgen ray reveal the mysteries of incipient infection. Let the dumb bacillus be compelled to speak in terms of diagnosis. Let infection be regulated since it cannot be prevented.

It may be well to mention the facts we all believe in:—

First, fluctuations of body temperature as by food, by bacterial toxins, by wasting diseases.

Second, the migratory power of micro-organisms, e. g., in physiology the ovum seeks the uterus; certain germs invade the anterior columns of the spinal marrow, producing paralysis. Tubercle bacili first invade nose, throat or digestive tract and enter the cervical, peribronchial, or mediastinal glands. Bacteriotropism is established as a pathological fact.

Third, selective affinity is illustrated in impregnation of the ovum; in retention within the uterus of the ovum; in various parasitic diseases and alimentary infections.

Fourth, the importance of oxygen every where in nature as a constructive or destructive agent, according to conditions and circumstances. The peculiar powers of hydrogen peroxide and ozone.

Fifth, electro-chemistry. The power of the high frequency current joined to oxygen; and the power of the ultra violet ray or of the roentgen ray in either of these three cases, and the production of ozone and nitrous acid without or within the body.

It has long been considered indelicate for a medical writer to cite anatomical facts. But the progress of research is so rapid; new relations surround old facts in so bewildering a manner that they give excuse for citations and reminders. One needs not to consult the compass while at home but travelling in new and strange regions, surrounded by unknown objects he must do so, unless he has other guides. The familiar sun looks less familiar to him in a strange country.

Sixth. We all agree that the vulnerability of different tissues varies and that they are susceptible to the injurious results of bacterial invasion in different degrees.

Seventh. We all agree that different micro-organisms have their peculiar weaknesses and varying susceptibilities to various physical, chemical and pharmaceutical agents.

Eighth. We are all agreed as to the importance of a diagnosis at the earliest possible moment; less than half our efforts to understand the pathology of our patients are crowned with success.

Ninth. Those of us who habitually employ the Roentgen ray in office practice will agree probably that the question of the value of the combined application of the thermometer and of the ray in cases of possible latent glandular infection, should be settled if evidence can be cited or gathered to reveal its value or lack of value.

Tenth. We probably agree that the mode of attack of the roentgen ray is through the agency of oxygen, that it renders it more potent by combining its atoms into molecules and adding power to them. Red tissues burn easiest under the rays.

Eleventh. We all agree in the existence of ozone in nature that the air surrounding the earth is ever subject to the endless bombardment of electrons from the sun and that the ultra violet rays are constantly producing unlimited quantities of ozone of which reaches the earth's surface and influences life upon it.

Twelfth. That the tubercle bacillus is especially susceptible to the action of light and air which means the electro-chemical result of their inter-action.

Thirteenth. That the latency of incipient tubercular infection deceives most of us and thus it spreads until when at last it becomes evident to palpation, auscultation or to the reaction of tuberculin the case is apt to be fatal—in fact it is said, by one acknowledged authority, that most infants or children who respond to the tuberculin test, die within a year.

The electro-chemistry of oxygen has for so many years been established on both sides of the Atlantic, that it needs no defense nor explanation.

The union of three atoms into a molecule having electric energy added, is so commonly used commercially as an economic means of sterilizing air and water, and of modifying, in practice, toxins and destroying bacteria *in vitro* as well as *in vivo*, that it needs but to be mentioned.

The weakness of bacteria lies in the carbon of which seven per cent of their substance consists. Convert this into carbon dioxide and the bacillus ceases to exist. This procedure is shown in water purification plants.

The Roentgen ray enormously increases the destructive metabolic processes of the body. Nitrogenous tissue substances are broken down; and lymphocytes are destroyed and absorbed by phagocytes in increasing numbers under the influence of the ray.

Smirnow, as quoted by Vaughan and Novy, states that toxins are converted into antitoxins by certain electric currents.

Bacteria die in their own poisons under certain conditions. The struggle for simple oxygen or for food may become futile, and death of the bacillus may result. Sunlight is fatal to most bacteria (Tousey.) Positive chemotaxis consists of the attraction of phagocytes by certain substances introduced within the body. Negative chemotaxis repels phagocytes. (Vaughan and Novy). Bacilli consist of cell walls and contents. Diffusion through the cell walls constantly occurs. To alter the mineral constituents of the medium is to kill the bacillus by osmosis. Immunity is created by bacterial enzymes. Immunity may be antibacterial or antitoxic. Tubercle bacilli are markedly chemotactic. Injected under the skin they cause aseptic local suppuration. * * * In office practice one may take the oral or rectal or surface temperature, record it, then pass the

*Read at the seventh annual meeting of the American Association of Clinical Research, on Sept. 25, 1915, at Philadelphia.

rays through any portion of the body for a given number of seconds through three millimeters of aluminum, after which the temperature is again taken and recorded.

The writer believes he has not observed such elevation in uninfected persons. * * * Elsie B., aged 9 months, had a rectal temperature of 99.2°. The Roentgen ray passed through the hip for three seconds raised the temperature six tenths of a degree. * * * The second reading need not be delayed. A prolonged exposure of the tuberculotoxic patient may speedily raise the temperature to an injurious degree, whereas a short raying repeated in one or two days may restore the temperature to normal, with a conspicuous return of the evidence of health in time. The increasing employment of various methods of physical examination of public servants as well as children and others has encouraged the selection of this theme and the presentation of this paper in the hope that the merits of the procedure may be rated at their actual value.

To Recapitulate.

The diagnosis of latent tuberculosis by the gamma ray and the thermometer or in different words through knowledge of quiescent, non-symptomatic, encapsulated, confined, living, dormant, tubercular bacilli (most frequently found in the posterio bronchial glands) by their regulated disturbance by measures taken to oxidize the bacilli and their toxins in a curative degree, as determined by elevation of temperature.

No other means of early diagnosis seems to exist. No tissues are more inaccessible to the prescriber or to the surgeon. It is evidently wiser to seek a means of eliminating the tubercle bacilli than to trust in permanent latency and safer to liberate their toxins in small amounts which shall create a degree of immunity while obviating the danger of capsule perforation and liberation of bacteria and their toxins too suddenly. Clinical experience seems to be encouraging.

TUBERCULOSIS.

A Report of Several Hundred Cases.*

J. D. Gibson, M. D.,
Denver, Colo.

My attention was attracted to tuberculosis in 1901 by the accidental raying of a tuberculin mass in the left iliac region. This case was diagnosed by two prominent surgeons, who saw the case with me. They refused to operate on the case and said in a short time I would have a death certificate to fill out.

The lady, hearing of the wonderful relief that I was obtaining from painful conditions in cancer with *x*-ray, insisted that it would probably relieve the pain in her side. Finally I picked her up in my arms, put her on the treatment table and gave her an *x-ray*, as strong as I could make it at that time, for about fifteen minutes. At the close of the treatment, I found the patient sleeping so soundly that she did not wake up on being carried back to her bed. She never had another hypodermic afterwards, insisted on being treated every day, in two months was out on the street looking finely, and is well and comfortable to this day.

This case started me to thinking, and I commenced treating other patients and reported five cases under treatment at the Buffalo meeting of the American Electrotherapeutic Association in 1901. Of those five cases reported at that meeting, three are living today. One very old man, seventy-six, died five years after treatment from pneumonia, contracted in February while swimming in the river after ducks he had killed.

I feel that in the 757 cases I bring before you today, we have enough cases, running through so many years of time, that they really can be of use to us for future thought and guidance. These are the records:

Total number	757
Living to-day	566
Lost sight of	102
Known dead	91
First stage cases	96
Second stage cases	343
Third stage cases	318

Of the 566 living, 170 are classed as improved; 396 are practically well. Thirty of those who are reported dead, received two months or less of treatment; therefore, they never received sufficient treatment to affect the disease one way or another. They should be eliminated, leaving 61 dead from all causes in patients receiving two months or more of treatment, giving us practically a death rate of 61 in all the 757 cases cases during the fourteen years.

There are 74% of all cases at the end of fourteen years now living; 14% have been lost sight of; 12% are known to be dead to date, and 8% are dead who received two months and more treatment.

After demonstrating these figures, I believe I have a right to be enthusiastic about *x*-ray, electricity and ozone, added to the climatic, dietetic, medicinal and hygienic management of this dreaded malady. I am glad to bring this statement in this paper before you, of all men, as every one of you can aid in proving my theories and my work. If I am correct, if these figures are true, is there any use in the continuing of the death rate of over a hundred thousand from tuberculosis, in the United States alone every year? I have been careful to try and not let my enthusiasm run away with my judgment in these cases, but I feel that backed by these statistics I show you today, I would not be true to the profession, true to suffering humanity, if I did not proclaim to you in no uncertain terms, that by means of this method of treatment, viz; adding *x*-ray, static electricity and ozone inhalation to the ordinary climatic, dietetic, medicinal and hygienic method of treatment, tuberculosis of the lungs and elsewhere, can certainly and positively be cured. Not only can be cured, but can be cured definitely in one-fourth the time it can be cured by any other means now employed in the treatment of pulmonary tuberculosis. This method is the only method of treatment ever brought forward that is so regular and constant in its action that one can say almost definitely how long a given case will have to be treated for definite and specific results.

In this report there are 96 first stage cases. Not one of these is dead, not one has a definite constitutional symptom of tuberculosis today. They are cured or so near well it is not necessary for them to be treated again for the condition.

The second stage cases, 344, are a series of cases always admittedly serious. They are cases with constitutional symptoms well marked. Bacilli can be demonstrated in sputum and there are definite lesions in the lung tissues and cover a period in the range of the disease from slight tubercular consolidations to the point of cavity formation, or third stage of the disease. This gives a wide range for the play of the disease in this second class of cases. We find often in this class much temperature, chills, night sweats, and much constitutional disturbances in many of the patients, while

*Read at the seventh annual meeting of the American Association of Clinical Research, on Sept. 25, 1915, at Philadelphia.

again we may have much lung involvement with very few constitutional symptoms. This stage is full of interest. It is a stage in which the welfare of the patient always demands immediate action as every day the trend is liable to be toward cavity formations. Some of these cases progress with great rapidity, others slowly but certainly, complications are likely to crop up on every hand, and so the physician has to be on the alert to see that sails are set to catch every breeze to waft his patient toward the shores of safety.

This class of 344 cases has furnished a few of the 91 cases of recorded deaths, but not many. You will occasionally get the fulminant hemorrhage in this class of cases. These hemorrhages will probably cause a death rate of one or two per cent. Other complications, as laryngitis, meningitis, heart and kidney complications, etc., may bring the mortality up to five per cent., all told, in these second stage cases.

It is astounding to physicians who know little of my work to see the results I get in this class of cases on visiting my office and inspecting cases. The amount of infection, or consolidation, does not always represent the gravity of the case. Some cases with a great deal of consolidation, or rather tubercular infiltration, respond much more rapidly than other cases with an insignificant amount, apparently, of infiltration. One very important element in these cases, is the vitality and vital resistance of the patient. This has a great deal to do in determining the way and the amount of reaction which the patient can stand. I have reached this conclusion from the examination of many roentgenograms of the lungs and watching the patient during his course of treatment. If the patient in this class has a good heart, stomach, kidneys, and a well poised mind, he should have a good chance of recovery by this method of treatment in spite of any ordinary infiltrations.

Third stage cases. Here we have 318 cases reported. This is a large number of cavity cases. That they are cavity cases has been demonstrated by the roentgenogram as well as physical examination. These cases also have their own way of reacting to this method of treatment. Definite gains and cures are made, but usually slower than in the second stage. Many of the late or desperate second stage cases have cavities formed in spite of treatment, thus passing into the third stage, and must be looked after along the same line as regular third stage cases. Cavity cases are the most serious conditions. They may be acute or chronic, "slow" or "quick," but the steady march of the cavity case is ordinarily to the end, but by this method, it is not so.

How many times have I been made happy by seeing these cases respond to treatment, even though slowly for twelve or eighteen months, and have treated them at intervals for as long as two years before getting the cavities healed good and sound, but this is not bad when you consider you have brought a man "back from the dead." The greatest danger, and the thing that breaks the doctor's heart more often than anything else, is a fulminant hemorrhage. These desperate cases have taught me to dread these hemorrhages. The patient is happy at the prospect of getting well, you are proud of your work, your patient leaves you at the office door with a smile and joke perchance, a short time later, you are called in a hurry to see him, and find him dead. A blasted hope eternally gone, telegrams to send to his loved ones, every word stings as if it was written in your own blood, as you know the consternation at the other end of the line where hope is turned into darkness. The hemorrhages in these cases are easy enough to account for. The whole lung tissue is weak and diseased; the blood vessels are unsupported in the cavities, therefore, as the patient begins to gain in weight and more blood fills these vessels and the pressure increases, there is more likelihood of one of them bursting. However, there is no other road to health, and so the risk must be run. These are the cases where many complications assail the patient, many of these are mortal, coming in to help drag the poor sufferer down to despair. The physician must be on the constant watch for pitfalls, for here of all cases, the old adage is true, "a stitch in time saves nine." When you look at the figures, 318 cavity cases, and in fourteen years only 61 deaths from all causes to date in patients treated two months and over, you will agree with me my results are not bad.

I will diverge to say that in the progressive, quick, serious cases in both the second and third stages of pulmonary tuberculosis, when combined with rest, there is no agent known to the medical profession which will control the temperature, cough, and general ensemble of patient, like *x*-ray. In the desperate cases of tuberculosis, it is the "magnum dei bonum" of all remedies. Hopeless cases, by all other means of treatment, with this method properly managed, can be frequently snatched from the grave itself. Losses in desperate cases will probably average from fifteen to twenty-five per cent., through hemorrhages, complications of kidney, heart, malnutrition, larynx and meninges, but is not every such case saved a "gem" that has been rare heretofore?

I believe there has never been made a claim by any other man, of any such recoveries from a like number of third stage cavity cases of pulmonary tuberculosis, as I am claiming. There is no other agent, or combination of agents, that I know anything about that will relieve and practically cure 70 or 75 per cent. of desperately ill second or third stage cases of pulmonary tuberculosis. The great trouble with me, and the cause of a great majority of my losses in this class of cases has been in getting the patients to the machines; getting them properly treated without blasting their hopes from over-exercise. I am now having paients rolled to office in wheel chairs, that heretofore I have allowed to walk, with great satisfaction.

If I could, I would impress another point upon your minds as if it were seared in with a red hot branding iron. It is the statement made in the early part of this paper in relating the 96 first stage cases in which the expression was used "there are no deaths." Do you grasp the significance of that statement, 96 cases, no death?

I wish I had the mind, the pen and voice so that I could reach and impress every medical man in the world with the fact that every case of pulmonary tuberculosis discovered in its incipiency, may be a cured case of tuberculosis and never reach a dangerous condition. When we have so many men who can take good roentgenograms of the lugs, with tuberculin, either in ointment or solution, so cheap and in common use, and the ordinary ability in physical examinations so marked, there is no use in not being able to diagnose every case of this disease in its incipiency. The vast majority of cases should be discovered, before the bacilli can be found in the sputum, before the bacilli have spread from the bronchial glands into the lung tissue, thus making recovery absolutely certain. I have never seen a tubercular gland that I have not been

able to cure with *x*-ray. Cervical glands, mesenteric glands, in tabes mesenterica, axilla, and all tubercular glands have yielded to the power of this agent; then why will not it cure these bronchial glands if properly applied, and abort pulmonary tuberculosis? Much is being said now, and written, on the subject of precancerous conditions, but think what a change would be today in the hundreds of thousands of sufferers from tuberculosis, if their physician had discovered the condition at this stage and corrected it at once, or aborted the lung condition.

Who can estimate the misery and woe caused by this continued neglect? Will it last forever? No! I expect to spread this gospel of emancipation of the human race from the scourge of tuberculosis.

By physical examination and clinical history of cases, backed up by roentgenograms of the lungs for determining conditions of the bronchial glands, every suspicious case should be fully diagnosed and physician able to say "Yes," or "No." If doubt still exists, use tuberculin either by injection or the test of Morro to further substantiate the condition. These are the very cases favorable to tuberculin treatment, and I think in these deep gland cases tuberculin or Von Ruck's new vaccine is really an adjunct to *x*-ray in these cases, when properly administered.

Now if my reasoning is correct, why can we not spread this fact so zealously that in a very few years it will be a disgrace for a medical man to allow a case of pulmonary tuberculosis to develop to a dangerous point in one of his clientele?

Is it too much of a dream to think of a coming day when there will be no tubercular specialists as we have no smallpox specialists today? The day when there shall be no more wan, weary, third-stage lungers on our streets, hoping, trusting and begging for something to save them from that sleep that knows no wakening. I believe the dream will come true, and more than that, I believe, by early diagnosis, *x*-ray, electricity and ozone, in combination with the ordinary medicinal, dietetic, climatic and hygienic management, the death rate in the United States can and will be made less from tuberculosis than it is now from variola in ten years.

Prevention of Human Waste.

Twenty-five out of every 1,000 employees in American industries, according to recent statistics, are constantly incapacitated by sickness, the average worker losing approximately nine days each year on this account. This "non-effective rate" for the great army of industrial workers in the United States barely suggests the total money loss to employers and employees. The lessened efficiency, the effects of reduced earnings in times of sickness, as well as the cost of medical attention, and the economic loss from deaths, swell the cost to industry and to the nation to almost incalculable figures.

That much of this loss is nothing less than preventable waste and that this waste can be largely reduced by a properly conducted system of governmental health insurance for wageworkers are conclusions set forth in Public Health Bulletin No. 76, containing the results o a study of "Health Insurance—Its Relation to the Public Health," just issued by the United States Public Health Service.

The preventive value of health insurance is given especial emphasis in this study. "Any system of health insurance for the United States or any State should at its inception have prevention of sickness as one of its fundamental purposes," says the bulletin. "This country should profit by the experience of European countries where prevention is being recognized as the central idea necessary to health insurance if health insurance is to attain its greatest success in improving the health and efficiency of the industrial population."

Such a system, it is pointed out in the bulletin, would:

1. Provide cash benefits and medical service for all wage-earners in times of sickness at much less cost than is now possible. Adequate medical relief would thus be placed within the reach of even the lowest paid workers who are most subject to ill-health.

2. Distribute the cost among employers, employees, and the public as the groups responsible for disease causing conditions and afford these groups a definite financial incentive for removing these conditions. This can be done by means of small weekly payments from employees, supplemented by proportionate contributions from employers and government at a rate reducible in proportion to the reduction of sickness.

3. Become an effective health measure by linking the co-operative efforts of the three responsible groups with the work of National, State and local health agencies, and by utilizing these agencies in the administration of the health insurance system.

4. Afford a better basis for the co-operation of the medical profession with public health agencies.

5. Eliminate the elements of paternalism and charity-giving by making employees and the public, as well as employers, joint agents in the control of this fund.

"A governmental system of health insurance," concludes the study, "can be adapted to American conditions, and when adapted will prove to be a health measure of extraordinary value."

Correspondence

To the Editor of THE MEDICAL TIMES:

The invitation of Dr. Jacobson to go to Parnassus and move amidst intellectual aristocrats shall be refused by some in the same spirit as would a trip to Chautauqua. Though our friends are children by Binet-Simon, yet we shall go with our people. There are qualities of mankind beyond the range of tests of verbal expression that puts a sweetness in our hearts when we think that we are with them, and not alone amidst supermen.

The extent of a man's response to Binet tests is his ability to express a knowledge of some fields of experience. No child and most men cannot express abstract ideas. They cannot leave concrete objects of experience, and why they are the sufferers the doctor's belief in exclusiveness will show. His idea, which would take us away from those that need us, is the same that sets one man against another. It is that the judgment of the individual alone is sufficient to decide his value to society. It is this motive that makes the policeman pose, the millionaire to condescend, the superman to ignore. It is the reputed intellectual aristocrats who have built up and organized into common opinion the present day sordid beliefs of self-interest. Man, an imitative animal, must follow, and enslaved to abstractions, he is made afraid to accept the truth of his own experiences.

At opportune times in the history of mankind its heroic devotion to the sense of its brotherhood appears in philosophers and common people. They willingly die than lose it and this true fire of manhood still burns beneath the veneer of birth distinctions and intellect distinctions, awaiting equality of opportunity and the measure of experience.

It is this feeling whilst moving amidst people that keeps us with them with the curiosity and Peter Pan desire for experiences, and never transcending them, for there we believe in man's finite conception of truth; and if Binet evolved a test to judge the depths of a man's fraternal feeling we would find the doctor dissociated from his unfounded abstractions, still with his heart amidst the common people.

THOMAS V. HIGGINS.

982 Bedford ave., Brooklyn, N. Y., June 10, 1916.

"Godliness with contentment is great gain" not only spiritually, but in the way of digestion also.

MATTHEW WOODS.

Mellin's Food is successfully used

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Summer Diarrhea for it furnishes

immediately available nutrition well suited

to spare the body-protein.

to prevent a rapid loss of weight.

to resist the activity of putrefactive bacteria.

to favor a retention of fluids and salts in the body tissues.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

Death of Two Prominent Physicians.

Dr. Frank D. Gray, a prominent surgeon of Jersey City, died recently in Christ Hospital, Jersey City, in his sixtieth year. Dr. Gray was born in Wrightsville, Pa., and removed to Jersey City in 1882, becoming a member of the staff of the City Hospital. Later he went into general practice with Dr. B. A. Watson, then going abroad, where he studied for two years in the chief medical centres. In 1888 he married Miss Catherine Atkinson, who survives him. Dr. Gray was a member of all the New Jersey and Jersey City medical societies, and in 1915 was president of New Jersey State Medical Society.

Dr. Nathan Jenks, of Detroit, a medical graduate of Cornell University, New York City, in 1899, died May 30. He was a Fellow of the American Medical Association; associate professor of obstetrics in the Detroit College of Medicine and Surgery; visiting obstetrician to the Women's Hospital and Infants' Home, Detroit; a member of the American Association of Obstetricians and Gynecologists and a fellow of the American College of Surgeons. He died in Harper Hospital, Detroit, three weeks after a surgical operation.

Both gentlemen were members of the board of contributing editors of THE MEDICAL TIMES.

Salvarsan and Neosalvarsan Received.

The Farbwerke-Hoechst Co., of New York, announces that it has received a very large shipment of Salvarsan 0.6 gram and Neosalvarsan 0.9 gram from Germany, and that this shipment has come to this country as a result of explicit orders of Kaiser Wilhelm.

It will be sold only to physicians and hospitals at the price which has been in vogue heretofore, namely, $4.50 per ampule, and there is a sufficient supply on hand to enable medical men to obtain enough for their entire necessities.

During the time that Salvarsan was scarce many imitations sprang up, some of which were very toxic and caused an immense amount of harm to the unfortunate individuals upon who mthey were used. The importers are seeking to impress the medical profession with the fact that the only legitimate Salvarsan and Neosalvarsan on the market can be obtained from them alone.

Triple Merger of Medical Colleges in Philadelphia.

A noteworthy merger of medical colleges has just taken place in Philadelphia, by which the Medico-Chirurgical College, the Jefferson Medical College and the University of Pennsylvania, School of Medicine, have united to form one larger teaching institution. The Medico-Chirurgical College is to be the graduate school of medicine of the University of Pennsylvania, its corporate title to be, "The Medico-Chirurgical College and Hospital, Graduate School in Medicine of the University of Pennsylvania." The Jefferson Medical College and the University of Pennsylvania, School of Medicine, will continue undergraduate medical teaching under a joint title, although retaining their individual identities so far as their properties and endowments are concerned. The union of these three institutions, therefore, will provide not only for the better instruction of undergraduates, but also for the development on a high plane of instruction for graduates.—(*J. A. M. A.*, June 10.)

Health Insurance.

In response to public interest in health insurance, the Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The State Department of Health and the Bureau of Statistics are directed to co-operate with the commission of nine members, which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar State commission already at work on this problem, which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety first campaign which followed workmen's compensation for accidents.

A School of Hygiene.

The Rockefeller Foundation has decided to establish in Baltimore as an integral part of Johns Hopkins University a school of hygiene and public health which will be devoted to training students in preventive medicine and public health work.

It is expected the school will be opened in October, 1917. It will take a year to construct and equip the necessary building and organize a staff of teachers. The work of organization will be undertaken by Dr. William H. Welch, professor of pathology, and Dr. William H. Howell, professor of physiology, of Johns Hopkins. Dr. Welch has been selected as director of the new school.

In announcing the plans, officers of the Rockefeller Foundation said there are many medical colleges in the United States which train men for a career in curative medicine, but the facilities for those desiring to devote themselves to preventive medicine and the promotion of public health are as yet inadequate. It was in recognition of the urgent need of improved opportunities along these lines that the decision was reached to found the new school.

The central feature of the school will be an institute of hygiene. The school building will be near the hospital and medical laboratories of Johns Hopkins University. In it will be housed various laboratories and departments, such as those of sanitary chemistry, of physiology as applied by hygiene, of bacteriology and protozoology, of epidemiology and industrial hygiene, of vital statistics, a museum, library, etc.

"No pains," the announcement says, "will be spared to develop an institution which in its own field will compare in usefulness with the Rockefeller Institute for Medical Research."

Experts whose advice the Rockefeller Foundation sought in perfecting its plans for the school agreed that a fundamental need of the public health service in the country is a larger supply of men properly trained.

The plans for the school contemplate an extension of its influence and usefulness by providing exhibits and lectures for the public and by other means to bring about a better understanding of the importance and needs of public and personal hygiene.

An Occupational School at Battle Creek.

It is becoming recognized among the members of the medical profession that semi-invalids are usually given too much time for introspection and that if useful, interesting occupation is provided their symptoms really become less acute. In line with this healthful theory, the Battle Creek Sanitarium has instituted an occupational school in which many of the patients have already interested themselves to their health betterment.

Many useful branches are taught in this school, including weaving, basketry, stenciling, clay modelling and others. The efficacy of the project, especially in quieting nervous patients, has been clearly demonstrated.

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An Ideal Place for Patients to Convalesce
CORRECT IN ALL ITS APPOINTMENTS
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FOR THE HOT WEATHER FEEDING OF YOUNG INFANTS

the safest and most satisfactory substitute for mother's milk is **Trommer Malt Soup.** Unfortunately, too little attention has been paid in the past to the diastasic ferment and carbohydrates that are found in human milk and which play such an important part in infant nutrition. In fact, most artificial infant foods contain no diastase whatsoever. It is not surprising, therefore, that the use of these foods is so often followed by malnutrition.

To those who have realized, however, the importance of diastase in the artificial feeding of infants **Trommer Malt Soup** has solved the problem. Easily made with

TROMMER
DIASTASIC MALT EXTRACT

many a physician has learned during the past forty years to turn to this standard extract of malt when confronted by the necessity of providing **a safe and suitable diet for infants denied their mother's milk.**

The simplicity and convenience of the food thus produced not only make it especially appealing but it is so easily and quickly prepared that the amount required for each feeding can be made up as needed, thus avoiding the dangers of contamination that always menace the food that must be kept standing.

Babies placed on **Trommer Malt Soup** do splendidly and the gain in weight, vitality and strength leaves nothing to be desired. The effect on the alimentary canal is particularly gratifying and it is a notable fact that infants fed with this food are remarkably free from digestive disturbance. This naturally suggests the use of this food during the heated season, and summer diarrhea rarely afflicts infants thus nourished.

It is a fact of no little significance that medical men who once commence the use of **Trommer Malt Extract** in the modification of cows' milk rarely if ever return to any other food. The results obtained make it entirely unnecessary.

Send for valuable booklet on *The Use of Malt Soup in Infant Feeding.*

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LISTERINE

In the treatment of Summer Complaints of Infants and Children

"The clinical basis of treatment is antisepsis and disinfection of the intestinal tract; not with a purpose to completely destroy the offending bacteria and their toxines, which we know to be neither possible nor necessary, but to assist the normal defenses of the body to gain the ascendancy."

"There are four principles of therapy which govern the treatment of these infections:
"(a) To give the gastro-intestinal tract physiological rest."
"(b) To remove as much as possible of the infective elements."
"(c) To stimulate natural defenses."
"(d) To reinforce these natural defenses with local antisepsis."

"By local antisepsis we can inhibit many of the pathogenic bacteria in the bowel before they enter the mucosa. The antiseptic agent must be selected with a view to certain requirements; for example, it must not be strongly acid. It must not coagulate mucin. It must not be astrigent. It must be easily soluble and not upset osmotic conditions, and finally it must be non-irritant and non-toxic."

"Listerine answers to all these requirements and furnishes an ideal agent of local antisepsis in these cases. It has the additional advantage of being compatible with almost any other medicinal agent with which the physicians may desire to administer it."

The above is abstracted from a pamphlet entitled

"Acute Intestinal Infections of Children"

a copy of which we shall be pleased to send to physicians upon request

Lambert Pharmacal Company, 2101 Locust St., St. Louis, Mo., U. S. A.

No. M. R. C. Camp.

Owing to the withdrawal of troops from their regular stations for duty on the Mexican border, the War Department has been compelled to abandon the camps of instruction for officers of the Medical Reserve Corps, that were to be held during the coming summer.

Army Medical Corps Examinations.

The Surgeon General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on July 17 and August 14, 1916, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications must be completed and in possession of the Adjutant General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There will be more than one hundred vacancies to be filled after July 1st, when the bill for the reorganization of the army becomes a law.

Poverty and Tuberculosis—Tuberculosis and Poverty!

These are the essential facts which force themselves to the attention of every investigator who faces the problem of that disease. The tenement house district of Cincinnati yields a tuberculosis morbidity just three times as great as the areas where better housing prevails. In 197 families in which tuberculosis existed the average monthly income for a family of four was approximately $57. After paying the pro rata share for food and rent, a balance of $5.13 remained for each individual to meet all other expenses. Such a low subsistence level works like black magic in the spread of tuberculosis. Moreover, and this is a point over which the public should ponder, the home of the average wage earner was found to be far less sanitary than the average factory and workshop. In regard to all the factors which make for healthful living, ventilation, sufficient light, proper temperature, and freedom from overcrowding, the score was in favor of the factory in nearly every instance.

The city of Cincinnati realized that her tuberculosis death rate was 50 per cent. above the average and that it had failed to manifest a tendency to decline. She felt no qualms in making this admission. Rather, she determined that she would learn why, with an efficient health department and favorable climatic influences, she was suffering from twice the mortality from that disease as her neighbor, Pittsburgh. Accordingly the United States Public Health Service was requested to make a thorough study of the situation and submit a report. To show that something more than mere academic interest obtained, 19,932 workers in 154 factories of the city voluntarily submitted to a physical examination.

The conclusions reached point directly to the close connection between poverty and tuberculosis. The great factor underlying the entire problem was seemingly that of economic conditions. One-sixth of all tuberculosis cases came from cheap lodging houses. Alcoholism was a prominent cause, and often accelerated the course of the disease. Occupational hazards and bad working conditions were apparently responsible for about 20 per cent. of the cases, but in the majority of instances these hazards were not necessarily inherent in the occupation. Previous tuberculosis in the family occurred in practically a third of all the cases investigated. Dissipation, overcrowding, bad housing and innate lack of personal responsibility were also listed as causes.

An interesting feature of the report, and one which has not previously been dwelt upon in studies of this character, relates to the effect of immigration and the rate of growth of the population of a city upon the tuberculosis death rate. It is shown that cities with a population composed largely of racial stock having a limited resistance to tuberculosis are subject to a high mortality rate from that disease, while centers having a slow rate of population increase are likewise subject to a high tuberculosis rate. The evidence is submitted in a comparative table covering sixteen American cities. Almost without exception those with a high percentage of Irish, Scandinavian and German stock, and those in which the negro population is relatively large, have a correspondingly high mortality, while those where the Italian and Jewish element is proportionately great have a low tuberculosis death rate. Similarly, such cities as Detroit and Cleveland, with high rates of population increase, show a low tuberculosis mortality, while Cincinnati and Baltimore, with a relatively small population increase, have a high tuberculosis rate. Doubtless the true explanation of this discrepancy is that advanced by the authors, namely, that where the population increase is rapid new buildings are erected to take the place of old insanitary structures and better housing conditions prevail.

Initial Control of Catgut.

A catgut ligature is a portion of animal tissue and when embodied in a wound becomes an abnormal tissue or graft, which, after it has fulfilled its mission of holding the parts together, must, under the action of the vital processes, be disintegrated, removed and replaced by normal cells.

In other words, catgut is a heteroplastic material and its presence in a wound sets up a chemotactic action of cellular attraction and repulsion, upon all of which the prior method of preparation of the material has a most important influence.

Thus the initial control of the ligature is of supreme importance. Johnson & Johnson, the manufacturing chemists of New Brunswick, N. J., realizing this, take the intestines as they are removed from the sheep and cleanse and disinfect them and chromicize them before the fibre is twisted into cords. Their "Handbook of Ligatures," which they will send free to any surgeon, tells fully about the process.

A Notable Germicide.

It is becoming more and more apparent, as time passes, that in Silvol we have a germicide of uncommon usefulness. Its field embraces practically all inflammations of mucous membranes. The indications for Silvol include conjunctivitis, corneal ulcer, trachoma, rhinitis, sinus infections, otitis media, pharyngitis, tonsillitis, laryngitis, gonorrhea, cystitis, posterior urethritis, vaginitis, cervical erosions, endometritis, etc.—all infections, in short, in which a silver salt is applicable.

Silvol would appear to have a number of advantages over most of the other proteid-silver compounds. It is freely soluble in water. While an exceptionally powerful antiseptic, it is non-irritating in ordinary dilutions. Silvol solutions are not precipitated by proteids or alkalies or any of the reagents that commonly affect other silver compounds in solution. They do not coagulate albumin or precipitate the chlorides when applied to living tissue.

In the treatment of acute inflammations of mucous membrane, Silvol may be used locally in solutions as strong as 50 per cent. with very little pain or irritation. In inflammatory affections of the ear, nose and throat it may be used in 5 to 40 per cent. solution, and for irrigating sinuses a 2 to 5 per cent. solution may be employed with benefit. For inflammatory conditions of the eye and conjunctival infection with pneumococci and staphylococci, a 10 to 40 per cent. solution may be applied with benefit three times a day. In acute gonorrhea, as an abortive measure, a 20 per cent. solution should be injected every three hours, while in the routine treatment the injection of a 5 per cent. solution three times a day is recommended.

Silvol is a Parke, Davis & Co. product. It is supplied in ounce bottles and in bottles of 50 capsules, each capsule containing 6 grains; also in ointment form (5 per cent. Silvol) in collapsible tubes containing approximately ⅛ ounce and 1¼ ounces.

Women and Cancer.

Between the ages of 35 and 45 three times as many American women as men die of cancer, between the ages of 45 and 55 twice as many. Generally speaking, the excessive mortality among women is due to cancer of the breast and of the generative organs. These forms of the disease, like others, are curable by qnalified treatment in the early stages.

A Message of Hope.

Cancer is a curable disease and probably 60 per cent. of the 80,000 yearly deaths are unnecessary and preventable. It is a popular misconception to say that we know nothing about the cause of cancer. Much is now known about the conditions, such as habits of life, predisposing factors and the various forms of chronic irritation, under which the disease arises. If this knowledge were more widely disseminated and utilized the mortality from cancer would undoubtedly be reduced.